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PROCEEDINGS OF THE OREGON PUBLIC MEETING ON THE NATIONAL ESTUARINE POLLUTION STUDY HELD AT MARINE SCIENCE CENTER, NEWPORT, OREGON ON MAY 9, 1968

Federal Water Pollution Control Administration
Portland, Oregon

1968

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# of the
OREGON PUBLIC MEETING

NATIONAL ESTUARINE POLLUTION STUDY

FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

May 9, 1968
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Newport, Oregon

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PART I

ORAL STATEMENTS
PRESENTED AT NEWPORT,
OREGON, MAY 9, 1968.

PROCEEDINGS

MR. POSTON: May I have your attention, please? I apologize for the somewhat late start, but we will make it up by making our introductory remarks quite brief.

Let me introduce myself. I am R. F. Poston, Regional Director of the Northwest Region of the Federal Water Pollution Control Administration.

Welcome to your meeting -- a meeting to consider the impacts of pollution on Oregon's coastal waters. It is the first such public meeting held in the Northwest as a part of the national estuarine pollution study. In a few moments, you will be presenting your views on this important subject and you will be presenting them to this panel.

The panel is not here to judge or cross-examine. They want to hear and to understand what you have to say. Occasionally, members of the panel may ask questions of a speaker to clarify a point or guide discussions to bring out views on an important aspect of the topic.

I would like you to meet them now. First, Mr. Kessler Cannon, who is the co-chairman of the meeting with me. He is representing Governor McCall and has been very active in arranging the meeting with us. Next to him is Mr. John Vlastelicia of our office in Portland and has been responsible for arranging the local arrangements. And next to him is Mr. Dale Mallicoat, Director of the Division of State Lands. His office administers the public ownership of riverbeds and banks, tidelands and offshore waters and navigable lakes. And last, on the end is Mr. Gene Jensen, Chief of the Office of Estuarine Studies in Washington, D. C. He is responsible for the national direction of the studies that are now underway.

First of all, it may be a good idea to define what we mean by an "estuary". The Federal Water Pollution Control Act describes it as "that area of a river that is affected by salt water, and that area of the coastal zone that is diluted by fresh water" For the purposes of this study, the management zone of land and water area which affects this estuarine zone is to be considered.

Many of you are familiar with our study already. But for those who are not, I would like to outline briefly, the national estuarine pollution study and to show what an important part your contribution will play. Your very presence here, of course, indicates an awareness of the importance of our estuarine resources. All of us here can agree that our estuaries are a valuable national resource, ecologically, economically, socially and aesthetically; and that the nation has a vital interest in their beneficial use and their protection or restoration.

However, estuaries are also vulnerable, in the danger of being destroyed by unintended, adverse and often irreversible effects of man's activities. Recent years have seen many an estuary of our nation lost to beneficial uses through pollution, conflict of interests and lack of effective management. Our estuaries can and will be used for regional and national benefit. But unless we take a long hard look at these estuaries and plan for their development, management and use, whole segments of desired uses will be lost, many of them forever.

Congress has recognized the need to protect our estuaries. In the Clean Waters Restoration Act of 1966, it directed the Secretary of Interior, in cooperation with the many public and private interests concerned, to submit a report by November, 1969, which would include, and I quote: "Recommendations for a comprehensive national program for the preservation, study, use and development of the estuaries of the nation; and the respective responsibilities which should be assumed by federal, state, local governments and by public and private interests.

Specifically, what is called for is, a comprehensive study of the effects of pollution including sedimentation, on fish and wildlife, on sport and commercial fishing, on recreation, water supply and water power and other beneficial uses. Such studies shall also consider the effects of demographic trends, the exploitation of mineral resources and fossil fuels, land and industrial development, navigation, flood erosion and control and other uses of estuaries and estuarine zones.

The responsibility for coordinating the study and preparing a response to Congress, was assigned my agency. The approach we are following is a three-barrelled one. First, the estuaries themselves are examined. A description of the national system will be composited in terms of what it is, how it functions and how it has been damaged by pollution.

Next, the social and economic pressures on the estuarine system are being studied. Resource use and the economic and social value of each use will be documented to establish the relative importance of these factors to the estuarine system.

The first two phases will provide an estuarine register -- a comprehensive inventory -- a necessary base for a management plan.

Finally, then, on the basis of these studies, recommendations will be prepared for submission to Congress. The recommendations will incorporate all important environmental, social, economic and political factors and will be in essence, a recommended management plan, describing the estuaries and proposing a management system of authorities and responsibilities for their use and wise development.

This ambitious task, of course, cannot be done in any one federal office. Its success requires that we seek help and advice and the counsel of others. Each federal agency involved in estuarine work is providing us with program descriptions and comments. Likewise, each state is providing similar descriptions and comments.

For those aspects of the study requiring special competence and staff not available within the administration, such as ecology, social and economic values and sedimentation, we are contracting with other agencies and organizations to provide the needed inputs; and very importantly, we are working closely with the coastal states. In this case, we are working with the State of Oregon. Through Mr. Cannon's coordination, we will obtain a consolidated description of Oregon's programs and views related to estuary management and development. Part of their effort is co-sponsorship of today's meeting to hear what your views are in this regard.

Today's meeting is an opportunity that shouldn't go unheeded. Congress has asked for recommendations before it legislates and it is important that your views be considered.

And I want to say now that we have a court reporter here, Mr. Bill Chun; and as the speakers come up, if they have copies of their speech, will they give them to him so that he can check his transcript. Then following the meeting, as soon as possible, we will have a complete transcript available.For any of you that want it, if you will leave your name at the desk or speak to me or write me a letter, we will see that you have a complete transcript of what went on today.

This then, is the why and how of our program from the federal standpoint.

Now, Mr. Cannon will give us a brief highlight on the implications of this work with regard to Oregon's interests. Mr. Cannon?

STATEMENT BY MR. KESSLER CANNON

MR. CANNON: Thank you very much, Mr. Poston.

State Treasurer Straub, members of the legislature, members of the panel, ladies and gentlemen, I am very delighted to have the opportunity to be here and to participate in the conduct of this public hearing. Mr. Dale Mallicoat, Director of the Division of State Lands, is sharing the responsibility for the State of Oregon.

It seems to me that the unity of purpose in approaching programs that will lead to solutions of problems associated with the estuaries of Oregon and the nation is certainly emphasized here in this public hearing. The input of the state and the state agencies concerned is well under way. We have a vast storage reservoir of material, ideas, plans and concepts that are available.

I would also like to publicly express my appreciation for the excellent participation that we have had from the Bureau of Land Management, the Federal Forest Service, the Corps of Engineers and the port districts, who also are assisting in implementing the Oregon picture. We all certainly appreciate the public response and we are anxious to have the comments of the general public and the spokesmen of the many organizations.

While Oregon maintains that the estuaries, the land, the water, is a resource complex for state control and development, we certainly recognize the national import of proper protection, balanced development and the maintenance of the unique characteristics of our estuaries. It seems to me that nature has fashioned estuaries as exhibit number one in multiple use and it's our determination to maintain them.

Thank you.

MR. POSTON: Thank you, Mr. Cannon. As usual, I always forget something and I think you will all join with me in thanking Dr. Joel Hedgpeth, Resident Director, Oregon State University, Marine Science Center, for making this beautiful auditorium available to us. And is Dr. Hedgpeth here? If so, I would like him to stand and let's all give him a great big hand for allowing us to be here.

(Applause)

MR. POSTON: Well, to get at what we came for now, I am going to call on State Treasurer Bob Straub to make the first presentation. Bob, do you want to come up and take the rostrum?

I had better lay down some ground rules. We are not going to accept questions from the floor. We can just have statements today. We can't have a debate.

STATEMENT BY STATE TREASURER ROBERT W. STRAUB

MR. STRAUB: Good morning. Mr. Poston, Mr. Cannon, Mr. Mallicoat, other members on the panel, people in attendance who are concerned as I am concerned and as I know many other people in Oregon are concerned, about the preservation of the coastal resources that we have, and preservation of the estuaries that we have in Oregon in such an abundance.

I want to personally commend Mr. Poston as the Regional Director of the Federal Water Pollution Control Administration, and his office, for the excellent job that they are doing in Oregon, in assisting Oregon and the Northwest Region to develop high water quality standards.

I want to point out that his help, with Mr. Kessler Cannon from the Governor's Office, in sponsoring this joint conference, on the problem of bays and estuaries, is another example of the leadership that Mr. Poston and his office is providing the useful role that the Government can perform in this very crucial, critical area of water pollution.

The estuaries present a very special problem and they expose special vulnerabilities which justify special attention. Estuaries are transitional areas of high sensitivity, where pollution and land abuses quickly destroy the unique values more rapidly and permanently than is true in other areas.

I want to make clear to the panel and to you in the audience that I do not come here today, nor do I attempt to pose as an expert on estuaries, nor do I come to pose as an expert on marine ecology. Scientists are far more conversant and knowledgeable about this area; but I do come here as a representative of an important public office in Oregon, and as an ordinary citizen concerned about the quality of life in Oregon -- concerned about the efforts that we can and should be making in Government, to try to preserve a good living environment in

Oregon.

And I want to suggest that the solution -- the blueprint -- the effective course of action -- in achieving the results that I think we all want, requires this kind of a team approach -- by the experts on one hand and the political people on the other, to attempt to work together to recognize the danger, to develop a sound plan for action, and then to build the necessary public support -- to build the necessary legislative support -- which is such a vital part of developing a meaningful plan.

There are 3 main points and I want to make clear that although I have a prepared report, I am going to summarize, briefly, for the advantage of time. I won't be quite as brief as the Governor's representative, Mr. Cannon, who certainly surprised me on his brevity, but I will do as well as I can, Mr. Cannon.

(Laughter)

There are 3 major areas that I think we have a responsibility on the state level, and I want to summarize them very quickly: One is that I urge that the next session of the legislature should consider state-wide planning for the coastal area in certain areas of major and critical public interest. Now, I recognize that planning on any level -- city, county or state, is a very controversial issue. But I want to suggest that there are certain areas -- certain major interests -- because of the overwhelming importance of these areas, that the state, through the legislature, should consider adopting as a meaningful and appropriate role for state action and leadership; and these are to deal with the problems in relation to flood plans, to deal with the problem in relation to beaches, to sand dunes, and to the problems of estuaries.

The second major point is to make a comprehensive inventory of all of the natural resources on the entire coast. I think in this regard, we in Oregon are very lucky, because we have the skills and the staff in Oregon to do a very commendable job. Our meeting here today, at the Marine Center at Newport, is an example of one of the areas of high competence and skills that we have.

This inventory is comprehensive, an all-inclusive inventory, is necessary in order to develop the information which must be the basis for wise legislation dealing with the estuarian coastal problems and also for use by the Government in their consideration of what they should do.

The third area is the adoption of interim measures at all levels of government to protect our estuaries, our beaches, our head lands, during the time interval which a thorough, comprehensive analysis will require. I would urge local government units -- cities, counties and port authorities, to plan very carefully in allowing new developments under their authority during this interim period. Certainly, the State Sanitary Authority, has a crucial role. It can and should play a key part by refusing permits to any developer, whose industrial waste would pollute and degrade the Oregon coastal waters or estuaries.

The last session of the legislature in Oregon has strengthened the Sanitary Authority's responsibilities, and the Authority must continue to strengthen its role as guardian of our State's waters.

I want to emphasize how lucky we are in Oregon that the waters of our estuaries are still of a high quality. We must not allow industrial or municipal wastes to contaminate them.

On an interim basis, the Government, through the Water Quality Control, administered by your agency, Mr. Poston, and under its authority to grant permits by the Corps of Engineers, the Bureau of Public Roads or the U. S. Forest Service and other agencies, must scrutinize even more carefully than they have in the past, any future development during this interim period.

These recommendations dwell only upon measures designed to protect our seashore until we can enact the necessary far-reaching plans and legislation to assure to future generations, the magnificent scenery now encompassed in our rolling beach vistas, jutting head lands and clear, fresh coastal waters which our generation has enjoyed. Can we do any less than to leave our children the same opportunities for surfing, fishing, picnicking and hiking along our magnificent Oregon coast?

It is imperative that we plan wisely and far-sightedly, that we conduct our surveys and hearings such as this hearing that you are having here today; but the time is rapidly approaching when the conclusions reached from these public meetings, must be incorporated into legislation and enacted into law.

Another area that I want to mention is the increasing importance of thermal pollution. We have one plan already announced in Oregon for the construction of a thermal nuclear reactor plant for the generation of electricity on the Columbia River; and certainly, some time in the future, there is going to be consideration for additional thermal plants and one of the areas that's talked about is locating them on the coast and perhaps even locating them on man-built islands off of the coast. This is an area that is yet relatively new and fresh, but now is the time, while it is far in the distance, for us to ponder as carefully as we are capable of pondering, the tremendous impact and the potential damage or benefit which the location, the design, the requirements imposed on the building of these nuclear plants, the manner in which they are handled.

Very roughly and generally, there are 3 general thoughts that I have in this area that I want to mention at this hearing. One is that before any permit should be allowed for the location of a thermal nuclear plant on the coast, that there should be very thorough public hearings, both conducted by the State of Oregon and the federal agencies. This is a necessary part of informing and making aware to the public, of the impact and the significance of the location of these plants.

The second point that I want to stress is that in the decision as to where these plants should be located, the environmental agencies, Fish and Game, and so forth, must have an important role in the decision that is arrived at.

And the third is that we must begin now, the very intensive examination of the beneficial uses of this tremendous amount of heat and use what energies and skills that we have to see to it that this heat is used as a benefit to us in Oregon rather than as a detriment.

Thank you very much.

MR. POSTON: Any questions from the panel? Mr. Jensen?

MR. JENSEN: I have two questions. I will try it without the microphone and see if it comes through. The first one, you certainly have spoken very forcefully on what you see of the role of the state government. Do you have any thoughts as to the proper role of the federal government, in a program such as you have described?

MR. STRAUB: Yes. I think that your role must be the same as it is in the Regional Office here in the Northwest, the Federal Water Pollution Control Administration, and that is to develop regional standards that apply, not only here in this region, but probably in regard to estuaries, should apply all over the nation. I think it is very necessary that the Government develop minimum requirements and standards and guidelines.

Pollution, as we realize, knows no boundaries -- knows no political boundaries; and we know that pollution of a major river, being discharged by the mouth of a major river or pollution in a major bay that gets out into the ocean, drifts far upland or downland, as the case may be, and cause pollution in other states. So I think this is a particular area in the control of estuaries, that the Government must play a role in creating standards that are minimum and meaningful and necessary.

MR. JENSEN: Thank you. My second question: The Delaware River Basin Commission has suggested that perhaps the conventional concepts of benefit cost analysis are not always entirely suitable in estuarine environments. They suggest a public philosophy of the most uses for the most people in the most places. Do you think that sort of philosophy is compatible with what you have -- (interrupted)

MR. STRAUB: Well, I would add one other requirement, and that is, for the longest period of time. And I think that in regard to estuaries, we have a resource which can very readily be destroyed and damaged permanently, because of the unique character of estuaries and the blending of fresh and salt water and the sensitive growth that occurs there, and the difficulty of discharging pollution once it's lodged in the estuaries because of the slack water and other conditions. We have a uniquely sensitive area, that it's vital now and there is no doubt in mind but that it will become increasingly vital in the future, that the cleanliness of this area be preserved.

The difficulty in conservation generally, as well as in estuaries, is the great temptation to sell out to the future for the immediate gain of the present. And I think that this is an issue that must constantly be debated, an issue that I believe that the majority of Oregonians are wise about in insisting that at least in Oregon, we intend to develop and enforce a policy of planning and control and preservation so that these values that are so important now will be preserved for the long range, when they will become increasingly important as time goes on.

MR. POSTON: Thank you, Bob. I wish to make comment -- you are not an expert on estuaries. I don't know as there are any experts on estuaries. This is a rather new field. We all have some part to contribute. That is why we are having these meetings.

I am next going to call on W. Stan Ouderkirk, State Representative, District 8 of Lincoln County. I understand Mr. Ouderkirk is in the audience.

STATEMENT BY W. STAN OUDERKIRK

MR. OUDERKIRK: Mr. Poston, it is good to see you again, sir.

Distinguished members of the panel, fellow legislators and distinguished Oregonians. Mr. Straub, I should have gotten you in there first, I think.

I do have a prepared statement. The reason I specifically wanted to be here and testify is that, as Mr. Poston knows, I was the chairman of the house committee on natural resources that handled all the pollution bills in the last session of the legislature. His department helped us immeasurably at that time. I have also been serving for the last four years on the committee on public lands, studying the problems of our state in the administration of public lands, so we do have a definite interest in this.

My prepared statement: The basis of Oregon's economy in its economic future is in water; and the main industries being the forest products and the allied industries, agriculture and we too have here on the coast, by far, the tourist industry.

With the new technology in the processing of forest products particularly in pulp and paper, the need for water is growing at tremendous rates. Agriculture is irrigating hundreds of thousands of acres and reclaiming land by extensive water use, especially in the vast tracts of land in Central and Eastern Oregon.

Water use for recreation has expanded to such an extent that we are physically dividing lakes into sections for boating, swimming and fishing. It seems odd that a state like Oregon, where we have, at times, such an abundance of water, that other sections of the country are casting an envious eye and thinking of diverting this water to their use, we should now realize that it is just in recent years with this tremendous growth that we are speaking in terms of surplus and not of shortages. Our future water development in Oregon will have to come under intensive management and storage; and one of the chief problems of our coastal areas is the steep slopes from which their streams flow and the few sites that are economically feasible for storage areas.

As I mentioned in my opening remarks, our three major industries are water based. The forest industry in its processing and waste water disposal has created pollution problems. Our agriculture in its fertilization and insecticide use has created pollution problems. Our tourist industry, by sheer number of people involved, has created pollution problems.

The pollution problems in our coastal streams have dumped itself into our estuaries in such volume that the responsible people for the natural resources, namely, Fish and Wildlife, are deeply concerned about the propagation and conservation which has a profound economic effect on our tourist industry.

Oregon moved forward with great strides in the last session of the legislature in the area of pollution legislation. Our Sanitary Authority has been given a formidable task. It is our feeling, with the cooperation of the other state agencies, all of which are encompassed in the Governor's Committee on Natural Resources, of which Mr. Cannon is our director, that the State of Oregon can, and will, answer its pollution problems with great dispatch.

We realize that we will continually need the assistance of such departments as our Water Pollution Control Administration and we are always most grateful for your technical and financial aid.

We thank you for being the catalyst to launch these thoughts for all agencies concerned here today so that we may constantly impress upon the peoples of our state and nation, the magnitude of clean waters.

You will note that I have not made a specific recommendation to this committee as to answers to our problem. The state agencies concerned will do this. It is my purpose to draw to your attention, that the peoples of the coastal strip do have a deep concern in this matter.

Thank you, Mr. Poston.

MR. POSTON: Does the panel have any questions? (No response) Thank you very much.

We will next hear from Dr. Jason D. Boe, State Representative, District 15, Douglas County.

STATEMENT BY DR. JASON D. BOE

DR. BOE: Mr. Cannon, Mr. Poston, members of the panel, Treasurer Straub, fellow members of the legislature and distinguished Oregonians, my name is Jason Boe and I am a member of the Oregon House of Representatives representing Douglas

County, one of Oregon's coastal counties. And while I may sound like a chamber of commerce for a moment, I want to background my remarks by some of the attributes which we have within our county.

The county which I represent contains the entire watershed of the Umpqua River from its origin high in the Cascade Mountains to its estuary and entrance into the Pacific Ocean near Reedsport. The Umpqua River is, to my knowledge, the only major river system in the United States to have its headwaters, its entire course and its entrance into the sea wholly within the boundaries of a single county. Obviously, the importance of this river system to the citizens of our county and to our state cannot be overestimated. It is the central nervous system of our economic and recreational resources. I cite these facts to show the deep concern I and my constituents have over any proposed legislation that will invluence or affect this magnificent resource in the decades to come.

In the 1967 session of the Oregon Legislature, I served upon the sub-committee which dealt specifically with all of the air and water pollution legislation that came before the legislature. From this vantage point, it has been my privilege to listen to many hours of testimony from persons, groups and organizations who have a vital interest in and concern for the problems of water pollution. From this background, I have arrived at certain conclusions and attitudes regarding these matters.

It is my opinion that the 1967 session of the Oregon Legislature performed an immense and important service to the people of Oregon in tightening up the Water Quality Act. Legislative Counsel informs me that they have had numerous requests from the legislators in other states for copies of our act, presumably to use as a format for introducing comparable legislation in their own states.

I do not come before you today as an expert witness on how many parts per million of any foreign substance constitutes pollution, but from the nature of the questions that you seek to have answered I can assume that one of your areas of prime concern is what system of management -- local, state or federal, will best provide for the conservation and development of Oregon's estuarial resources. My belief is that the State Sanitary Authority, armed with the legislation we passed in 1967, is in the best position to control the Oregon estuarian water quality problems. I emphasize Oregon in this contest, for I am in no position to know what is happening in this regard in the gulf states or on the eastern seaboard. In some of our states, I am sure the problems of estuarian pollution are severe enough to warrant comprehensive and quick federal action. However, I must emphasize that a distinction in such legislation could and must be made between those states who are showing good faith and making substantial progress in this field of water pollution as against those states whose legislatures through inertia or improper influences have refused to come to grips with this problem.

I would further cite that the Water Quality Standards adopted by the State of Oregon in its three hearings on the coast last year to meet the present federal water standards for coastal waters were approved by the Federal Water Pollution Control Administration.

At this time, it is my belief that the State of Oregon is in an excellent position to meet its obligations in the field of estuarian water quality and dual control by a federal agency would complicate matters unnecessarily at perhaps an unduly great expense.

We also have the fact that the Oregon State Land Board which is comprised of the Governor, the State Treasurer and the Secretary of State, controls most of the land underlying the land in the estuaries, and our Highway Commission through its Parks Department, has the province of establishing recreational values. It does, therefore, seem to me both as a citizen and a legislator, that the State of Oregon will provide the best system of management consistent with the needs of the people of this state. This is not to say that we do not welcome the research data that the FWPCA will develop as a result of these and similar hearings, or that we will not be amenable to suggestions, advice or counsel. We are saying, however, that here in Oregon the emphasis on federal participation should be research oriented and to insure that Oregon continues to carry on its programs in the excellent manner in which they are presently being carried on.

While I understand quite clearly that federal research grants are not within the scope of your study, I would strongly recommend that you give serious thought to the great possibilities of abating some estuary pollution by the industrial and commercial use of products and by-products that are presently, of themselves, pollutants. I refer specifically to the bark from harvested timber which can cause both air and water pollution; the re-capture and the re-use of certain chemical pollutants. Undoubtedly, there are many other examples. Oregon's universities and colleges are admirably and excellently situated and equipped to play a significant role in this type of research.

Without question, the estuaries of Oregon and the nation are going to be subjected to ever greater usage as our population grows. This will undoubtedly create changing conditions in the various values to be found in these areas. Hopefully, both we on the state level and you on the federal level will come up with a balanced program that will provide the people of Oregon with the highest and best use of our estuarial waters consistent with the beneficial uses of all the varied users of these waters.

MR. POSTON: Are there any questions from the panel?

MR. JENSEN: If I understand you correctly then, you are suggesting that in the field of estuarine management, that a relationship between the state and the Federal Government, something like that which we have in the Water Pollution Control Program, might be effective, is that it?

DR. BOE: I think this is correct and I would again -- and I would like to respond to a question that you asked Treasurer Straub on this thing, to re-emphasize my point on research, that I think that it would be extremely helpful, if, when you come up with your recommendations -- we know already that there are pollutants that can be used in a commercial manner, that can be manufactured into commercially usable products. And I think that this is an important and can be and should be an important part of the recommendations that you make to the Congress.

MR. JENSEN: We plan to have, if everything goes right, a conference on estuarine research and study needs in Washington in approximately one year. We hope that this will be a very major national conference and it will look into many of the opportunities and needs in estuarine research and study and certainly, I think your suggestion is a very good one. It is one that I have not heard before at any of the other meetings. It certainly will be conveyed back into the system.

MR. POSTON: Mr. Cannon has a question.

MR. CANNON: Yes. Jason, are you indicating that perhaps there should be one authority as for example, the State Sanitary Authority and to have its authority expanded so that it would be the overriding agency to control development of the estuaries or use of the estuaries and land related to the estuaries? Do I read this in your -- (interrupted)

DR. BOE: Perhaps so, but I think that we cannot -- we cannot overlook the port authorities and various other forms of local government. I think it has to be a team approach between your port authorities, between your cities, between your counties, between the State Sanitary Authority, between the legislature, the executives in the state, working -- as I believe that we have worked in Oregon, as a team approach to this thing. This is my suggestion.

MR. JENSEN: Are you familiar with the legislation that was adopted recently by the State of Maine?

DR. BOE: No, I am not.

MR. JENSEN: They have established an estuarine management board, I believe it is, with representation -- high-level representation from each of the major interest organization -- water quality, forest, marine fisheries, their land board, their geology group, I believe -- something like that?

DR. BOE: I think this sounds -- I would have to see the legislation, but I think -- have they passed and adopted this legislation?

MR. JENSEN: It has been passed.

DR. BOE: We will certainly have legislative counsel send for copies of this legislation and we will see that it is distributed and observe it. It is very good to know.

MR. JENSEN: The State of New Hampshire, also, adopted some new estuarine legislation that place all of the responsibility for all use of the estuaries in a single agency but then directed that agency to consult with other department heads in the enforcement of it.

MR. POSTON: Thank you. I would next like to call on Kenneth C. Batchelder of the Audubon Society of Oregon.

STATEMENT BY KENNETH C. BATCHELDER

MR. BATCHELDER: Chairmen Poston and Cannon and members of the panel, I am greatly impressed with the seriousness that is being given this question and the fine people that are here and it makes me very happy to think that we are approaching this very serious problem.

My name is K. C. Batchelder. I am president of the Oregon Audubon Society. This society was established over 50 years ago, 1909 to be exact. It was established for the welfare of wildlife and related interests. There are over four hundred members. Its conservation committee is headed by Martha Platt, a nationally known figure in the conservation world. She was out of the city, so was unable to be here today. Her committee, and supported by the Board of Directors, commend the Water

Control Administration for their action in making a study of the estuaries looking forward to the best ultimate use, and conservation before it is too late.

Our organization has long appreciated the values of estuaries, particularly since many of us are bird students, and estuaries support an outstanding variety of birds. Many of our field trips through the years have been to estuarine areas.

Estuaries are far more than a place to go birdwatching. They are the bridge for many forms of marine life traveling between the sea and the fresh waters of our rivers. Of course, salmon are the outstanding example, but we recognize that many other species of fish are involved.

Estuaries form some of the richest ecosystems of the world in terms of production of both plants and animals in both quantity and quality. The easily destroyed food chains of estuaries ultimately provide life for shell fish resources and on our coast, support black brandt, ducks and other water and shore birds. These higher forms of life are dependent upon the lower forms which are subject to destruction by pollution. It is most unfortunate that we do not know the degree of pollution or its effects in many Oregon estuaries, but we have noted through the years great declines in the bird populations using the estuaries and have been accordingly concerned. One of these birds is the black brandt which is almost entirely dependent upon estuaries most of the year. Its principal food is eelgrass. This has become badly decimated on the Pacific coast. Any study of estuaries should take into account not only actual pollution but also the effects of the pollution.

We have not only been concerned about pollution but also the filling of estuaries for housing and other developments. This has been going at a steady but alarming rate on the Oregon coast.

Our concern is one of the reasons this society supported the concept of House Bill 25 in its original form. This bill provided for (1) inventory of estuaries, (2) purchase of the more outstanding estuaries and (3) no filling of estuaries by private or governmental bodies without the approval of the Department of Interior. We believe these three points are important and should be authorized by Congress.

Estuaries are both an economic and aesthetic resource which should be carefully studied. The most productive ones should be preserved intact. We would expect this to be a state responsibility but if they are unwilling or unable to accept such a responsibility, it should be taken over by the Federal Government.

While birdwatching along an estuary is important, the public benefits from estuaries in one way or another, through food supplied wildlife watched on TV sets or just knowing such areas exist, lead us to the conclusion that we commend the investigation, urge the adoption of such action as will preserve, for the most part, the estuaries in Oregon and in the United States.

We appreciate the opportunity to present our views. We will be glad to be kept informed of developments, including any help that our organization may lend, to accomplishing the desired results.

Thank you.

MR. POSTON: Any questions?

MR. JENSEN: Yes. When you say an estuary should be preserved intact, do you mean that it should not be filled in or rather that there should not be any use of any kind?

MR. BATCHELDER: Essentially that, yes. When you fill in an estuary -- perhaps that Great Blue Heron, you destroy his food, you see? It may be just the level of the point -- it is very easy to fill in these estuaries and make some valuable waterfront land and this is the thing that we -- in some of the more important ones, that we think should not be done. Certainly, somebody should have the authority to pass on those. There should be no filling in anywhere without some authority -- maybe in the state level or somewhere, to see whether this -- and it should be by people informed to know, not only about the pollution, but what food sources they may be destroying.

MR. POSTON: Thank you, Mr. Batchelder. The next discussant or informant will be Mr. C. Dale Snow, of the Oregon Chapter of the American Fisheries Society.

STATEMENT BY C. DALE SNOW

MR. SNOW: Mr. Poston, members of the panel, ladies and gentlemen, I am Dale Snow, and I am speaking on behalf of the Oregon Chapter of the American Fisheries Society, in the absence of our elected officers. Now, these gentlemen would like to have been here today, however, prior commitments have them elsewhere and I am the ex-chairman of the "Save Our Bays Committee", or "SOB's", for short.

(Laughter)

MR. SNOW: Even the most cursory assessment of Oregon's estuaries quickly establishes them as among the most important and valuable of our natural resources.

In addition to their peculiar values, as key pieces in our state's ecological jigsaw puzzle, they play critical roles in the maintenance of many other most prized natural resources.

Every species of anadromous fish comprising our state's valuable recreational and commercial fisheries is dependent upon the estuarine environment at some stage of its life.

Estuarine areas support extensive recreational and/or commercial fisheries for several species of marine fish, clams, crab and oysters.

They provide important resting and wintering areas for migratory waterfowl and support large populations of shore birds and furbearers.

They are becoming increasingly valuable as living educational laboratories as we turn increasingly to the ocean sciences.

And, although our measurement techniques aren't precise enough to measure our estuaries' non-marketable values to the passive recreationists, these values are real and ever-increasing.

Unlike the many other resources with which Oregon is so abundantly endowed, we are estuary poor. Our estuarine lands, excluding the inter-state Columbia River estuary, total little more than 41,000 acres. This very scarcity compounds their value and makes each decision of utilization more critical to maintaining truly optimum values.

There has been considerable degradation of these values in some of our estuaries via water pollution, filling, dredging and sedimentation from the upper watersheds and other ill-planned activities.

We took a giant step toward resolving our water pollution problems with the recent adoption of our state water quality standards. These vital safeguards established minimum standards of quality or, maximum standards of pollution, depending upon your point of view.

But, in addition to imposing a ceiling on the upper limit of pollution, the standards also contain a mandate based upon Secretary of the Interior Udall's anti-degradation policy which states, and I quote in part, and I quote, "Notwithstanding the general and special water quality standards -- the highest and best practicable treatment and/or control of wastes and flows shall in every case be provided so as to maintain overall water quality at the highest possible levels."

Clearly, we now have the basic tools to insure estuarine protection in this area of pollution. Now we require only the necessary refinements and aggressive prosecution of that philosophy.

We do not, however, have the necessary protective standards to combat other sources of estuarine pollution such as dredging, filling, log storage, poorly planned industrial, residential, and recreational developments, and other activities in the watersheds inimical to realization of optimum values.

We have lost nearly 900 acres of tidelands to industrial filling and dredging in the past eight years alone. Must of this fill remains unused, and exemplifies ill-planned and irrevocable estuary "pollution".

The fill just across Yaquina Bay under which 60 or so acres of extremely productive bay clam beds are permanently interred, is a case in point.

And, up the coast just a few miles from here, we witness filling of the valuable Siletz Bay marsh to create a subdivided, clapboard and shingle sea wall against the Pacific. It is rumored that long-range plans call for the complete obliteration of all tidal flats in this important waterfowl and fishery area.

It must not be inferred from our references to the detrimental effects of these uses that we are insensitive to the needs of industrial and other commercial utilization of Oregon's estuaries. This, of course, would be patently unrealistic.

We are opposed to development toward short-term, personal goals without proper consideration of the renewable natural resources. The stakes are simply too high.

We must coordinate the development, and recognize clearly the necessity of non-development, of our estuarine lands with an eye to posterity. For there can be little doubt that their future natural values surpass our wildest imaginations here today.

Ironically, the decisions that will in many cases unalterably mold the future of our estuarine areas and their attendant natural resources must be made today.

It is to that end we offer the following recommendations:

1. That an immediate (within one year) inventory be made, by local, state and federal agencies involved, of all Oregon estuaries relating to their present and potential uses and values -- from the natural resources, commercial-industrial and public points of view.
2. From this inventory the objectives of estuarine management in Oregon may be identified and agreed upon.
3. A moratorium must be established on the alterations

which are occurring and those which are proposed, until an overall plan of use is adopted for each estuary.

4. Jurisdiction for management of Oregon's estuaries must be clarified. Areas of overlapping must be identified.

5. Where data is insufficient for rational policy and management decisions, we propose that research be undertaken to provide needed information.

6. Water quality standards, which currently blanket all estuaries, should be studied to determine whether separate standards might be warranted for each estuary.

7. Educational programs, on the values of Oregon's estuaries, aimed at all segments of Oregon citizenry from kindergarten to the golden age, are essential to develop public understanding and appreciation.

8. Studies should be implemented on rare or endangered species of shellfish in Oregon estuaries.

9. A study is suggested to determine if outdated Corps of Engineers "pier lines" can be changed to be more compatible with biological and recreational uses of estuaries.

10. Management of Oregon's estuaries should be vested in the state -- assuming that the state accepts this

responsibility.

11. The State of Oregon should consider the establishment of "State" estuarine areas similar to the program of National areas suggested in House of Representatives Bill 25.

I would like to take this opportunity to thank the committee for allowing the American Fisheries Society to appear here today. Thank you.

MR. POSTON: Are there any questions from the panel? Mr. Cannon?

MR. CANNON: Dale, do you suggest that any change in the estuary then is a degradation?

MR. SNOW: Not necessarily.

MR. CANNON: Not necessarily.

MR. SNOW: I feel that we need to know more than we do now. We need a good inventory of each estuary to evaluate, so that we can better manage. Too many times, we are having to decide, on the spur of the moment, what we are going to do, without really knowing the full consequences. I feel that with proper planning, that many of these agencies can get together.

MR. POSTON: I would like to raise one question. Secretary Straub mentioned the thermal pollution problem. Would you have any opinion as to whether we might enhance the value of the estuarine waters by the introduction of heat from power development?

MR. SNOW: Right at the moment, I would have no definite opinion. There are two schools of thought on it -- one is, that we could warm the waters, make shellfish grow faster. This would be good. In attending a meeting on the east coast recently, a physiologist got up and said, "We possibly could do this. The animal would literally burn himself up in his own fire, from overproduction." So, it is still in controversy. I think some of this should be looked into.

MR. POSTON: Any further questions? (No response) Thank you very much, Mr. Snow.

(Attachment to statement submitted to the Reporter herewith appended and marked as "Appendix A".)

MR. CANNON: I have just been informed that Congressman Wyatt wanted to be here, but he is not. He is in the Walter Reed Hospital and has the flu. We hope that he is getting along splendidly. Chuck White is here in his behalf -- his administrative assistant for Oregon. Where is Chuck?

MR. POSTON: Would you like to present a statement at this time?

MR. WHITE: No.

MR. POSTON: You are recognized. Next, we will call on William S. Dirker, Jr., of the Port of Portland.

STATEMENT BY WILLIAM S. DIRKER, JR.

MR. DIRKER: Members of the panel, ladies and gentlemen, my name is William Dirker. I represent the Port of Portland

Commission.

I really feel somewhat like the gambler taking bets in church, as though I am here to speak in favor of pollution.

(Laughter)

I think, seriously, those of you who are knowledgeable of the Port of Portland's activities, realize that they have been a serious contributor to the control of pollution and with their industrial standards and activities in the Portland area. So, I will go from there.

But I do think that there are some things that should be brought into our view. The Port of Portland's principal concern is the Columbia estuary in the Columbia River. But I think some of what we say would apply equally to other estuaries.

The very great impact of commercial navigation on the economy of this coastal state is often taken for granted and we feel this can be very dangerous. Commercial navigation moves massive tonnages and contributes thousands -- millions -- millions of dollars to our economy in various ways and makes much of our fundamental economy viable. We would not have the economy we do if we were not a coastal state with a very well-developed navigation system.

Port functioning is a fiercely competitive business and small differences tip the balance of where the navigation becomes available. Commercial navigation now is under extreme pressure from the impact of many of the conflicting uses of the water resource -- uses such as recreational boating, commercial and sport fishing and the development of structures along navigation channels that are inadequately built and engineered to withstand the wake of passing vessels.

I think in our enthusiasm for one aspect of water use or the other, we may inadvertantly create problems which carry a very great expense. I think perhaps pollution control might fall into this category, simply by inadvertance -- by not realizing what can be done. And I think specifically, I speak of blanket turbidity restrictions that can seriously restrict dredging of channels for both navigation channels and industrial land reclamation and turbidity restrictions that were not properly tailored to the requirements of dredging could present a really serious area. Turbidity raised from dredging -- and this is particularly true in the Columbia River, with its sandy bottom -- one is quite temporary in time. It only lasts for the time the dredge is actually discharging. Two, in the Sandy River, with the heavy materials, the turbidity created by the outfall of a dredge only extends a few hundred feet. It settles rapidly so that the standards that are written into turbidity control should give serious consideration to this aspect. Actually, some dredging can be beneficial to pollution. I think this has proved true in the Willamette harbor, in the Portland harbor, where that the dredging of the forty-foot channel has actually removed polluted material from the bottom of the river and put it ashore, so that it is no longer the problem it was. So please, in writing controls, do consider the nature of dredging and do not apply turbidity restrictions that prohibit or make dredging impractical.

The second general area that we would like to concern ourselves with and one which you have invited our comments, is on management. I think here again, we echo what some of the other gentlemen have previously said. We recommend a pattern that is suggested by the other Federal Water Pollution Control legislation. Namely, this is -- we feel that it is proper for the Federal Government to set standards for the environment of the estuaries and then offer the state and local governments an opportunity and technical and financial assistance to achieve these standards. And then only, after a reasonable period of time, if this fails, should there be active, direct federal authority applied.

Thank you very much.

MR. POSTON: I would like to ask one question. It is a subject you didn't mention but one which bothers me a great deal, and that is the waste from ocean-going commerce. You know at the present time, these people tie up at your docks and they want to dispose of the waste. They have no place to discharge it on land, so they discharge it in the water. Have you got any comments about what you are doing or what you think should be done to control this problem?

MR. DIRKER: Most of the ships that ply our harbors -- or if not most of them, a very large percentage of them, are foreign flag. And they ply the waters of the world. Controls on this are really not in view. There is much being done on an international level on this thing and really, it is only at this level can it be solved. It is quite apparent that new shipping, new construction, is considering this, and that with the impact of the new generation of ships that will replace the present thirteen thousand ships plying the ocean today, with perhaps a half or a quarter of this number, in a very few years, this problem may go away, just by sheer economics of the old ships being made obsolete and newly constructed ships, faster, more modern, more efficient, running them off the seas and the new ships are being built with pollution controls in them.

MR. POSTON: Where will they discharge their effluents -- the bilge water, their sanitary sewage, the culinary waters that come from the galleys and so forth? Who is going to provide -- I assume that we are going to put those on land. Who will provide the facilities for that?

MR. DIRKER: I don't have this answer, but I do know that there is much being done on this by the Maritime Administration and many other agencies.

MR. POSTON: I would suggest that the port authorities, as a further service to their customers, might consider this within their province.

MR. DIRKER: They seriously have considered it, but the technical problems are really -- with the current ships, are almost impossible to solve.

MR. POSTON: Any further questions?

MR. JENSEN: Your mention of oil and hazardous cargo has received an awful lot of publicity in recent months. Do you have any suggestions or any thoughts on what the port authorities should be doing to set up mechanisms to help prevent accidents and then, if accidents do happen, to provide cleanup?

MR. DIRKER: The gentleman just coming here is Mr. Keith Hansen, who is assistant general manager of the Commission of Public Docks in Portland and so could I defer to him?

MR. JENSEN: Certainly.

MR. POSTON: Keith Hansen just agreed to talk on this and I have had several conversations with him in the past, so do you want to come up and take the podium and let's quiz him a little.

STATEMENT BY MR. KEITH HANSEN

MR. HANSEN: Mr. Poston and members of the panel and ladies and gentlemen, I did not plan to make a statement here. I am with the Commission of Public Docks in Portland, Oregon, and we are a little far removed from this estuarine study, but the questions have come up that are more or less in my province, and this is on the two subject, the matter of human pollution from ocean-going vessels and then you brought up, Mr. Jensen, the idea of oil problems.

Now, on the matter of the sewage from -- human sewage from ocean-going vessels. You suggested, Mr. Poston, that the port authorities, the port bodies, private terminal companies or what have you, provide the equipment somehow to get this off the vessel and to shore. I don't think that it is practical. I have talked to naval architects, the sewage disposal people in the City of Portland and it doesn't appear to me that there is any practical way of pumping or honey barging or any other way, to take the sewage off the ships.

As Mr. Dirker pointed out, the new echelon of American Flag Line construction -- American Mail Line is the first one coming on the line. They have five new vessels with sewage control built aboard. Also, the international organizations -- this problem is not only one in the United States, it is worldwide and everybody is concerned about it. I would think there would have to be an international control of some kind on this, perhaps something in the nature of that -- let's talk about baseball for a second, or the spitball rule. I don't know how you are going to solve this problem of existing vessels. But if the international organizations would insist that in every shipbuilding nation, that new construction have aboard it, either holding ponds or treatment plants, or no new construction would be made without this, then you would just about have to allow the existing vessels to continue on their way until they phase out, how many years this will take, I don't know.

But there seems to be no practical way and I am not a naval architect, but there is something to do with the bulkhead security, of going from one bulkhead through the other, to get the pumping stations to pump, to take itaway. That seems to be, as far as I can determine, and I am certainly no engineer or expert on this field, of finding a way to convert existing vessels to somehow being cleaned.

Now, there is also a matter of how much pollution do these ocean-going vessels cause; and there is no doubt, they pollute the water. You can't get away from that. You can see it. But in the overall, it seems to be very small, in the ratio of the whole works, against municipal and industrial pollution. A vessel has, say an average of fifty people aboard it. It comes into Portland, for example, seventeen hundred ships a year. They are there for an average of perhaps three days. The crew doesn't stay aboard. They go downtown as much as they can. You have got about a third of them aboard the ship and some study indicated that the pollution caused by commercial vessels in Portland was about the same as that of a town of three hundred. But the question is there and it must be solved. I think some time will be taken. I think it must be done internationally -- at least, nationally.

On the question of oil pollution, we have had some experience in Portland on this matter. Vessels sometimes are careless. Sometimes it's accidental, sometimes it is not. Five or six years ago, there were two very serious oil spills and obviously, the port authority who was responsible for the docks, must clean them up, and it costs money and it is public money and we don't like to spend that kind of money. We want to get the guilty person.

Taking tests out of the water and out of the tank is sort of like a fatherhood test. You can say it might be this ship, but you are not sure it is. (Laughter) Nevertheless, we did sue two vessels that made heavy spills. It cost us about thirteen thousand dollars to clean this up and we sued them. And the trials went on a considerable time and we won these cases. Now, since that time, our security people and the Harbor Patrol in Portland, make checks of every berth twice a day, and there is an official log and it says, "At 8:00 a.m., this berth was clean", if it was clean. A vessel comes in, and if at 4:00 p.m., and that vessel is there, and there is oil in this berth or in this area, we move in the Harbor Patrol, the City Police, the Corps of Engineers, the Coast Guard -- enough hornets to collect the information, to get the physical information, make the laboratory tests and convince that vessel and the agent of that vessel that this is his problem.

Now, the Master of the vessel, most of the time is going to say, "It didn't happen on my watch. I couldn't possibly have done this." But the Harbor Patrol greets every vessel in Portland now with a copy of the restrictions, the penalties, both local and federal and the insistence that any oil spillage must be cleaned up. We have been tough enough about this with the evidence that the agents of the vessels come of the lines now calling know that we mean business and convince the vessels that we mean business and if they do spill, they clean it up at their expense. And I think Mr. Poston can verify that we haven't got the oil pollution problem a hundred per cent licked, but I think that in Portland, we have cut it down tremendously in the past five years by a very close system of inspection, warning and aggressive prosecution, if necessary.

Perhaps that is all I have to add, Mr. Poston.

MR. POSTON: Thank you for your contribution, Mr. Hansen. We appreciate having this for the record.

Our next speaker will be Dr. Ruth Hopson Keen, Division of Continuing Education, Oregon State Department of Higher Education.

STATEMENT BY DR. RUTH HOPSON KEEN

DR. KEEN: Mr. Poston, the panel, fellow citizens, I am Dr. Ruth Hopson Keen, Professor of General Science, Portland Center, Oregon State System of Higher Education. I wish to speak in support of the national estuarian pollution study.

Many of our natural resources, including our estuary, have been modified, sometimes beyond restoration, without first the basic knowledge necessary to protect these resources; and sometimes, in spite of this knowledge. Because of a lack of a wise policy in the management of these resources -- because of this, it is heartening to see the national estuarian pollution study in process. I grew up at Coos Bay, and have always maintained an active interest in marine life, especially in the pelecypods and gastropods. Many forms that were abundant during my childhood, are now rare. Pollution, especially in the estuaries, is no doubt a factor.

Partial filling of bays from increased rate of sedimentation, as a result of disturbed watershed is noticeable in Coos Bay and in the other bays along the coast. In some, wastes from pulp mills and other industries, as well as sewage wastes from cities are rapidly changing their habitat. It is my hope that this study will furnish Congress with the necessary data to form the basis from which to enact laws to prevent further pollution and to abate much of that which is already taking place.

I shall be interested in following the process of this hearing and the studies with which it is concerned.

Thank you.

MR. POSTON: Does the panel have any questions? (No response) Thank you very much. The next presentation will be by Robert M. Baker, of the Port of Newport.

STATEMENT BY ROBERT M. BAKER

MR. BAKER: Mr. Poston, members of the panel, and many people interested in the subject today -- I am grateful to see so many. I feel to a degree like at least partially the host, since the Port of Newport and Yaquina Bay is right here, as a part of you today.

We are very much interested in the controls that would be applied to estuaries. We would like to be a continuing part of the solution in the development of standards by which growth can be accomplished.

We have an interesting and a unique estuary, the Yaquina Bay. There is about fifteen miles of estuary -- salt and fresh water mixing. It is possible to put pollutants into the water at Toledo, and from that some fifteen-mile point, they will collect for some thirty days before they get to sea. We have then, a real potential for a build-up, to change the environment, in which the marine life can live. We have the great need for controls, an awareness of how to develop.

We here in Newport -- in the Port of Newport, have five classifications of development programs that need to be integrated and by the time we get into all five of them, there is a great complexity in this integration. There is the need for standards, when we talk about recreation. We would want to build in this park district, extending six miles to the south, up into the Tillamook County line, an environment for recreational growth -- an attractiveness for thepeople in this state and the west and the nation. We also intend that we develop here, a model fishing port, by which the fishing industry can be stimulated -- stimulated to a degree that we can set some examples for the growth of that great industry, that in 1936, held a position of leadership in our country and that last year, slid to sixth place -- an industry that needs help, needs stimulation and is an important economic part of our environment.

There is this center in which we are today and its cultural potentials. We need to build upon that cultural potential and provide here, the laboratories, the scientific opportunities to determine from the sea, our growth future. Seventy per cent of our land is covered -- seventy per cent of our globe is covered by water and yet, almost all of our food comes from land and not from the sea. I wonder if you are aware that an acre of grazing land will raise three to five hundred pounds of beef an acre a year here in this county; and yet, there are areas where oysters are cultivated, that yield sixteen or more thousands of pounds of oyster meat per acre per year. The sea has a great potential to provide for us, food sources and survival for the world and we have here, the talent to put that great resource to work.

We are interested in deep-water shipping; being just off the ocean, we have a great potential to provide for transportation.

And then, there is industrial development on a general basis. So we have a great variety of variables that we need to plan and it is most important that we have standards by which to provide for this planning.

In making a trip up our estuary recently -- and incidentally the fresh-water flow is small. Therefore, in this great mass of water, we have salinity for a considerable distance and oftentimes,little fresh water wash. That means great variable salinity conditions, with the tide rising some seven feet on an average; and in making trips up the bay and looking at the shores, you see areas where the land is being washed or eroded. We have the choice of putting a rip-rap there to protect it. Is that an improvement or are we adding the variable problems -- other indices of concern? We do not have standards by which to grow. Every effort we apply, have been attempting many development programs in the last year -- and all too often, the resistance to growth, through controls from federal and state bodies, do not provide for us, an ability to pre-plan.

It is our intent not to use up this great resource. By man's development, to enhance it and not to destroy it. And yet, we do not have all of the standards required to provide for an aggressive development program. It is therefore of considerable value today that we look for results from this meeting and its purpose.

The port body is in an ideal position to provide for growth. Having five commissioners elected from the populace, the group responds then to the need of the community. And from this response and only from a community level response will real growth occur, and I feel concern, when we talk about federal regulation -- federal regulation that really can't be aware of not only the need here, but the variables that exist here. As I say, this is a unique estuary and the standards that you would apply to pollution control, in which this pollutant can remain in the bay for extended periods of time is certainly unlike the pollution control standards you might in turn apply to Portland, for example, where the wash of fresh water is considerably different. So through the port districts, it does then become possible to respond to the interests and needs of the communities and yet, we need some means by which to have standards of development, standards of growth, and I would strongly recommend support for some of the comments that have already been made -- one regulatory body in the State of Oregon. And this regulatory body seeking counsel from the many disciplines that are involved, using and teaching the standards that are established in development control.

When I say "teaching", it is amazing the intricacies of the disciplines that are involved in growth. In attempting to work with many of those who feel concerned, their talents, asking questions, their guidance, there is a need for input from many many disciplines, and I would suggest that one regulatory body can develop the knowledge by which to apply standards in estuarian growth.

By asking the Federal Government to apply standards from Washington, I think, would be unrealistic. There is too much of a variation in growth planning that is involved.

In summary, I would like to make one point. I would hope that you, in your recommendations, talk less about control and more about use, for certainly, it is our plan to make use of this great resource we have.

Thank you very much.

MR. POSTON: Thank you. Any questions from the panel?

MR. JENSEN: Yes. I think the sort of presentation that you have made, I have heard from a few other places, large ports that are beginning to realize there are many of these use interactions, that have become very difficult to figure out how to live with and so that the community can develop normally and naturally and so that one use doesn't get too much in the way of the other. In Galveston Bay in Texas, they have started a very large project that will extend over a period of several years and try to investigate each of these various uses -- community planning, water use planning, water quality standards -- try to explore and determine how all of these uses can fit together. Do you have any specific thoughts on how a community such as this should go about developing a plan -- an overall master plan that would provide for community growth and which at the same time would preserve these desirable estuarine characteristics?

MR. BAKER: We have a master program list of some forty-five programs which are in the process of implementation. Detailed planning, of course, is required. Now, a great deal of contact is necessary within the community to work with the variables that are involved. Let's take one example, the oyster industry, and I think we have here, the potential for a tremendous industrial development, properly organized and oriented. We have had great resistance from some of the elements of the community because for one example, that area of that river bay is closed off. It is not possible to integrate recreation and an oyster bed. It is necessary to preserve that bed for that purpose. There can be some interference with traffic of transportation up the bay, for vessels cannot cross this bed. If they touch bottom, they destroy the oysters. The oystermen themselves have to express great concern about dredging. At one point, some years back, I am told, a barge of dredge material didn't go across the bar and dump at sea because the bar was rough and they moved up into the bay a ways and dumped their load of dredged material. At that point, I was told the area up around Oysterville, as we call the area where oysters grow here, was almost black with spat ready to set out. Most of them were destroyed by that silt material, which is very toxic to the small swimming oyster.

However, when we talked to the oyster people about the need for dredging, initially, many of them were concerned that because of the pollutant, the material that would be placed into the water. However, if we dredge at the right seasons, we are not going to destroy the spat. So there is the possibility, in talking about the growth of that industry, and of the development of the channel, to do these two things together on a seasonal basis. The oyster people are very concerned that many of their beds were covered by silt and sand, when the channel was initially developed. It is possible for the Corps of Engineers, and they are most willing to do so, as I have talked with them, to select specific spoils areas away from the bay, so that there is no influence on present oyster beds and little influence on the condition of the water. This, in answer to your question, I think requires enough knowledge on the part of the developer to be able to talk to all of the interested parties involved and get them to become aware of how they must plan, is a part of the integration of these many efforts and then, in a deeply involved community growth plan, to grow as a community -- to grow as a group. It becomes a tremendous communications problem. However, there is no way I feel to do it, except for the standards to be known by those people who are developing, so that they can then plan against those standards, whether they be marinas, oyster, industrial land, whatever they may be, so that all of these things then can be publicly known and compatibly developed.

MR. POSTON: Thank you very much, Mr. Baker. I would like now to call on Mrs. Richard Anderson, of the Oregon League of Women Voters.

STATEMENT BY MRS. FRANK W. ANDERSON

MRS. ANDERSON: Evidently, it doesn't work to put down your maiden name. I put down my -- or my first name, Dorothy, and I ended up with the wrong husband's name in the process. (Laughter) I am Mrs. Frank Anderson. Mrs. Richard Anderson is also here, but I am speaking for the League of Women Voters of Oregon.

Today, I should like to be here to present to you, the views of the League members in Oregon concerning water pollution in Oregon estuaries.

The League is pleased to have an opportunity to testify before this committee, which is charged by the Congress to prepare a comprehensive report on the status of water pollution in the nation's coastal waters under Title 2 of the Clean Water Restoration Act of 1966.

The League of Women Voters on a nationwide basis, adopted a water resources study in 1956. During the past 10 years of this study, the League has researched water management in such areas as planning, administration, financing, and water quality. League members have become increasingly knowledgeable and active in the water field from their study and have arrived at a consensus position concerning water resources.

In brief, and stated broadly, the League's position on water is:

> "Support of national policies and procedures which promote comprehensive long-range planning for conservation and development of water resources and improvement of water quality."

From this position, the League believes that the wisest plan for development and for maintaining good water quality entails consideration of all aspects of water use -- such as human consumption, industrial use, navigation, conservation of wild life, and recreation. The League also believes that for long-range planning it is necessary to have coordination and cooperation among all levels of government as well as other groups immediately involved in the area.

Then to supplement the national water resources study, and that's the position I just read, the Oregon League of Women Voters, at its 1967 State Convention, adopted a new state study item involving water resources. The title of the study is "Air and Water Pollution in Oregon with special emphasis on the relation of the state's activities to those of federal, local and proposed interstate governmental agencies".

Unfortunately for the purposes of this hearing today, our study so far has concentrated on air pollution -- the water part of the study item will be studied at a future date. This means we do not yet have at hand the detailed background information on estuaries in Oregon necessary for specific recommendations to you today. However, from the results of our national water study there are some concerns we both can and should point out.

First of all we are more than casually concerned about the present and possible future state of the Oregon estuaries. The beauty of Oregon's coastline and its value to the state's tourist industry demand that its quality be restored, preserved and developed in an orderly and comprehensive manner.

The League supports dredging and dumping controls in an effort to improve water quality. We are concerned in Oregon over the number of permit requests for filling and dredging along the coast. These permits are issued by the Department of the Army, Portland District Corps of Engineers. We should like to see restrictions on estuarine dredging as part of our effort for wise long-range planning of the downstream areas. According to the December 1967 report, "Crisis in Oregon Estuaries", prepared by the Estuary Conservation and Development Committee of the American Fisheries Society, "Nearly 900 acres of tidelands have been lost to industrial filling and dredging since 1960. Much of this fill remains unused".

The Oregon League of Women Voters recognizes that a time limitation prevented the State Sanitary Authority from developing water quality standards specific for each estuarine area on the Oregon coast. We commend the Authority for setting up a single set of standards in its effort to comply with the federal deadline for state water quality standards. However, we hope that in the near future the Sanitary Authority will reconsider their estuary standard in the light of each estuary's needs for development, water quality protection, and other uses.

Another concern of the League regarding estuaries is the multiplicity of governmental agencies that presently exercise some management authority over the 15 estuaries in Oregon. The Oregon Land Board has estimated that approximately 40 agencies on the local, state and federal levels are involved with estuaries. The League questions the ability of such a large number of separate and autonomous bodies to plan and to implement plans for the benefit of estuary areas. We believe that it is vital to have more coordination and cooperation among these governmental groups in the planning and development of coastal areas. Some clear-cut lines of authority would be a help to orderly development plans.

While our remarks today are general in nature, we did want the committee to know of the concern for the estuaries by the 2300 members of the League of Women Voters of Oregon. We thank you for this opportunity to be heard.

MR. POSTON: Do we have any questions of -- I am not sure if I am right on my Andersons but it is Dorothy Anderson. (Laughter) (No response)

Thank you very much. I see now that it approaches 12:00 o'clock and we have gotten about half through with the number of people that wish to be heard. I believe that I will call a recess then for us to take care of the inner man and we will reassemble at 1:30 to resume this meeting.

And I would urge you to come back, because as I said, we have several more people to be heard from.

(Applause)

(Whereupon, at 11:45 o'clock a.m., a recess was taken until 1:30 o'clock p.m.)

AFTERNOON SESSION

MR. POSTON: I am glad to see so many of you made it back from lunch. Unfortunately, one of our panel members hasn't gotten back and one had to leave. Mr. Cannon had to return to Salem. I think though, in the interest of time, we will proceed; and at this time, I will call on William R. Volpentest, from the Port of Coos Bay.

STATEMENT BY MR. WILLIAM R. VOLPENTEST

MR. VOLPENTEST: Thank you, Mr. Poston. Gentlemen, ladies, friends -- I will read this, and then I have a few comments to make.

My name is William R. Volpentest, I am the General Manager of the Port of Coos Bay, Oregon.

We appreciate the opportunity to exchange ideas relating to the Coastal Estuarian problems.

First, we fully endorse and encourage the Federal classification program and water quality standards. It is unfortunate that the Federal Government was forced, by the inaction of local interests to direct their attention toward the protecting of such a valuable natural resource as our coastal waters. We hope that the Federal role will limit itself to the setting up of guidelines and the assistance of whatever technical and financial nature will be required by local interests.

The economy of the Coos Bay area is based, generally, on forest products, for a major portion and, to some lesser degree, on the hydro-agronomy, as I put it, of the fishing industry. It is again unfortunate that our fishing industry has suffered in the area of the shellfish, such as, oyster beds, among the other types of fishing, because of the dumping of detrimental waste materials in our estuary. The Port of Coos Bay is actively investigating some remedial action for pollution abatement in our estuary. In the past, the estuary has been developed and used in large part for transportation purposes. This accounts for the large forest product processing industry which is located in Coos Bay. We feel that there is a common ground upon which industry, transportation and our fishing resources can co-exist. To enforce pollution legislation which would be detrimental to our industrial base is, to say the least, ridiculous.

The problem as the Port of Coos Bay sees it is:

(1) A pollution condition does exist in our estuary, we recognize this.

(2) A very important forest products industry could be eliminated by an ill-conceived, over-zealous enforcement program.

(3) If the pollution problem is not corrected, an eventual drastic reduction in another important industry, besides fishing, that of recreation, will occur.

The Port strongly opposes Federal and State operational control of the pollution abatement program. The Port of Coos Bay, as a Municipal Corporation, understanding the problem, proposes to act as the enforcement agency in our area. Further we have, as I have mentioned before, taken active steps to investigate the problem and when the results have been tabulated, and certain recommendations made, the Port fully intends to take steps to clean up our estuary. Given time we intend to eliminate from our waters all wastes which are not naturally caused. And I use that word advisedly -- "naturally caused".

The Port of Coos Bay fully endorses the statement, which will be made later by Dr. Paul P. Rudy, Jr., of the Oregon Institute of Marine Biology, and we intend to work closely with Dr. Rudy and his staff, to properly institute a realistic program of pollution abatement which will restore the valuable natural resource -- that of our waters.

We will clean our own house. We are actively engaged in the solution to these problems. We wish to emphasize our position regarding operational control of the pollution problem; the Port demands and supports local abatement and control.

Now, that is my written statement. I'll be in trouble Monday. My Commission hasn't seen this yet.

This morning, Secretary of the -- I tend to think of him as Secretary of the Treasury -- but Mr. Straub, made the statement or used the term "water pollution" or "thermal pollution", excuse me. I would rather think of it as "thermal enrichment". You have all heard this before. But with proper controls and with proper programs, and the Port of Coos Bay is involved or will be involved in the thermal program -- thermal nuclear is what I am talking about -- nuclear power generation, I hope, in the near future. With proper controls and with some realistic investigations, this warm water can be of vital importance to the promulgation of more in the hydro-agronomy and the land agronomy of the area. It has already been proven in other places. And I am not going to go into details because I don't have the time. You people are just finished with a, I hope, a nice clam chowder lunch, as I have. You are probably very tired and want to sleep. But the point that I am trying to make is this -- somebody had to come up with a program that was Federal in scope because -- and on the east coast, they are almost to the point in their rivers and estuaries where it is going to be impossible to fix it.

I was just back in Washington last week and it's a mess. Well, Washington is a mess but the water is too. (Laughter) We are faced today with a very serious problem of the -- on the one hand, the total industrial picture -- and we don't have these people in Coos Bay, incidentally. We have very realistic people down there and you will be surprised to know this. I was very pleasantly surprised to find this out myself. But on the other hand, we have the so-called conservationists who really mean they want it to be as my wife's great great great great grandfather saw it when he was coming down the Columbia River -- his name was William Clark -- he saw a beautiful, primitive area of lots of water -- uncontrolled water. And that was what, in 1804? And this is 1968. And I feel that the resource that we have -- the resource that everyone enjoys and probably one of the largest reasons why the State of Oregon and the State of Washington were populated and are populated in an ever increasing number today, is because of our water resource, which creates the lumber and the rest of it -- the reason for this population growth here is water. We have to manage this water.

I think we, in Oregon -- we in Coos County and in the other counties of the state, probably have a better idea of what we can do locally than does the Federal Government.

Now, as far as the Federal Government's role is concerned -- this was one of the questions asked on the notice that was sent out -- what role should they play? As far as we are concerned -- as far as I am concerned, the role that the Federal Government should play in FWPCA perhaps should be like the role that the Economic Development Administration is playing, that of a self-destructive agency of the Federal Government. And what I mean by that, is this: Set up the standards, provide the financial help where needed to take care of pollution abatement. And then, when these local communities get back on to their feet, so to speak, where water management is concerned, pull out. Now, Coos County is an economically depressed county. I am not proud of that. But we are so persistently unemployed down there, we are eligible for priority EDA money to bring us back up.

As soon as we get to the point where our employment -- and this has nothing to do with pollution -- but when we get to the point where our employment reaches a certain level, we are no longer eligible for EDA funds. This is what I mean by a self-destructing Federal agency. They have done the job. Therefore, they have no further use.

I don't mean that in a derogatory manner, gentlemen. What I am saying is that there is a great fear today of Federal control of too many things. And we want to help. We are begging to help.

In Washington, D. C. last week, there were quite a few of us. We asked for guidelines. We asked for the technical assistance and the financial assistance necessary to do the job in our own locality. Now, this may run contrary to what a few people think. But local control can be done, if it is kept out of the political arena, which is kind of hard to do. But anyway, it can be done, and we are willing to try. But give us the time to do it.

The Port of Coos Bay -- I brought along with me today, Mr. Leon Potter, from Vitro (phonetic) Corporation of America. Mr. Potter is a micro-biologist. He may be known to some of you. I know he is known to the people that we have been dealing with today. Mr. Potter is actively engaged in a program exactly the way you people would like to see the program handled.

The Port is willing -- as soon as I can talk the Commission into it -- to do something about our problem.

Now, naturally caused pollution is another -- is another problem which I am not qualified to talk about. The companies in our area -- the industrial complex in our area -- people I talked to, are all for this. As a matter of fact, they cleared this statement before I came, so we are willing, we are ready -- all we need is a little time to study it and we need the cooperation of the state agencies and the Federal agencies and the local community.

And I think one of the things that might help the pollution problem would be for more of the areas along the Oregon coast -- and I found this to be true -- but more of the areas who have not done so, to develop and adopt a uniform building code as the first step in planning for their future growth. Because built into these uniform building codes are pollution abatement measures and if they are not now in those codes, they certainly should be, so that any future building can be done in a realistic manner. It may be a little more expensive today, but tomorrow, it is going to be a lot less expensive to maintain.

Thank you very much. Any questions?

MR. POSTON: Any questions from the panel?

(No response)

Thank you very much, Mr. Volpentest. We will next hear from Oscar F. Weed, representing the Weyerhaeuser Company.

STATEMENT BY MR. OSCAR F. WEED

MR. WEED: Mr. Poston, gentlemen, ladies and gentlemen -- I kind of hope that all of those people that came in while Bill Volpentest was talking -- I hope you don't decide now to leave again. I fervently hope you will stay. Let's get a balance of ins and outs.

I want to tell you that we really do appreciate this opportunity to be here with you today and to participate in this hearing.

As you said, my name is Oscar F. Weed and I am the Area Manager for the Weyerhaeuser Company in Coos Bay, Oregon. However, this statement speaks for the company as a whole and not just the Coos Bay area.

We have examined Section 5(g) of the Federal Water Pollution Control Act, as amended, in order to confine our remarks to the intent of that subsection. We hope our statement will be helpful to you.

We feel that this action is timely, and it is gratifying to know that specific planning is proceeding on programs necessary to protect these valuable water resources and to enhance, in a balanced sort of a manner, their beneficial use.

Weyerhaeuser Company has long had an interest in the best use of estuarine waters, particularly in the States of Washington and Oregon. With this in mind the company has engaged in detailed and costly research studies of the waters of the Willapa Harbor and of Grays Harbor in the State of Washington; and these studies carry back as far as 1952.

Oyster growth in the Willapa Harbor and Grays Harbor has been studied, and a model of Grays Harbor was constructed and used to predict pollutional effects from a sulphite mill which was being considered at the time -- at the time the studies were initiated. This mill was built, and now is operating at Cosmopolis, Washington. Currently, a study on oyster growth in Grays Harbor, we are doing in cooperation with a large commercial oyster grower there.

Weyerhaeuser Company's scientific and technical personnel maintain communication with scientists in the public and private sectors, relating to problems concerning estuarine waters. These communications are valuable to all participants in that each thereby increases his sum total of the knowledge in this field of endeavor.

I think this is indicative of the company's continuing interest in this subject, and I would like now to list some of the specific recommendations that we would like to make:

1. Developing a Management Plan for Each Estuary -- Estuaries and estuarine waters are valuable natural resources. A most important goal should be to develop a management plan for each estuary which would provide the best return from the balanced uses of that estuary.

Now each estuary is unique. Each estuary requires study and evaluation.

Every use of each estuary will contribute pollution of some type and with varying degrees of effect. The total impact of pollution can be minimized by the application of the states' water quality standards and plans of implementation now in effect.

2. Principal Responsibility Rests with Each State -- The primary responsibility for the management of estuarine

water quality rests with the state concerned. The state would call upon federal services beyond its capability to provide. Examples would be dredging by the Corps of Engineers, civil structure construction in the estuary under the control of the Corps of Engineers, and, of course, those examples which arise because of national security and welfare.

An examination of the responsibilities held by the state and by the federal government should reveal the need, if any, of better definition of responsibilities and their division between the levels of government.

3. Resolution of Relative Importance of the Uses --

Resolution of the importance of each use is a most difficult task even when present uses only are considered. This becomes even more complex when consideration is given to potential future levels of use in each use category.

Such resolution will be very time-consuming. However, no plan of estuarine management will be fully worthwhile unless this type of study is done with deliberation.

4. Care Needed in Changing Physical Features of Estuaries --

We recommend that changes to the physical features of an estuary be made only after careful thought has been given to any adverse effects that might arise as a result of such changes. Examples would be: Dredging, relocation of channels, diversion of waters upstream, and the construction of highways across estuaries.

5. Tital Effect Dictates Upstream Waste Control --

The flow of water from an estuary is greatly affected by tidal action. Wastes flowing into a moving current are carried away from the point of discharge. However, tidal action can cause a water particle to stay in an estuary, moving upstream and downstream for many days before it finally reaches the open sea.

Since the estuary is the "funnel" through which the geographic regions drain to the sea, it can be expected that residual wastes will pour into that "funnel" from the entire region.

In any plan of estuarine management, it would therefore seem to be important to reduce this residual waste at all points in the region.

6. Important Uses of the Estuarine Waters --

We consider these uses to be quite important, and we consider these uses as follows:

As a watercourse outlet to the sea;

As a harbor for commercial transport;

For fisheries -- both commercial and sport, shellfish and finned fish;

For an industrial activity; all kinds of industrial activities;

And for recreation, both local and tourist; and

For wildlife activity.

We cannot now give a general opinion of the relative importance of any one of these activities for estuarine waters in general. Again, each estuary presents a unique situation, with hydrological, economic, biologic, and chemical factors differing markedly in each case. In the development of plans for specific estuaries, the company would offer specific thoughts on these uses at the appropriate time.

Weyerhaeuser Company's corporate policy pledges the corporation to operate its facilities in such a manner as to avoid damaging other uses and users of air and water. The policy further pledges the company to use all technically and economically feasible methods available to it to comply with applicable regulations on environmental protection.

"Protection", however, is not enough. In the past, we in the United States have made relatively little attempt to manage water in the same sense that we manage agricultural resources, or in the way in which intensive management is beginning to be applied to our forests.

The need for intensive management of the nation's water resource has been slower in obtaining recognition -- but the need is no less pressing. We should already be planning for rational and systematic management of water.

The Weyerhaeuser Company urges that we begin to work now toward managing estuaries to obtain a high yield of estuarine values, just as we manage timberlands to achieve a high yield of forest-associated values.

Thank you, Mr. Poston, for this opportunity to be here and to participate. And I would kind of like to do this, and maybe ask a question and make a statement both, if I could, before you get to me, and that is to say that we did make a statement, I think, in January of 1967 at the estuarine water hearings as they were held here on the coast. The Weyerhaeuser Company made a statement in Coos Bay. I think my question is, is that in your files and a part of your data or would you like us to present that data at a later date? We would like to have you have it if you haven't it already.

MR. POSTON: It's in our files but in a different place and I would suggest that you resubmit, so that it can be made a part of this transcript.

MR. WEED: Thank you. We will be very happy to do this.

/See Appendix G: page 228/

MR. POSTON: Any other questions?

MR. JENSEN: No. I think it would be good to have that included in the record.

MR. WEED: We would be very happy to get that for you and I suspect we have a few days to get that mailed in?

MR. POSTON: This might be a good time to make that announcement and that is, that we will hold the record open for fifteen days for people that wish to submit supplementary or new statements for the record. In other words, any of you here that feel compelled or otherwise to make a statement that you would like in the record, we will hold the record open for fifteen days. I would like at this time to again repeat that those of you that want transcripts of the conference, leave your name at the desk outside, or get in touch with me. We are not distributing it widely unless some people indicate their desire to have a copy. Thank you very much.

MR. WEED: Mr. Poston, I think I am stretching my luck just a little bit here but I will do it anyway. Mr. Mallicoat indicated a question and I didn't want to walk away from it.

MR. MALLICOAT: You suggested a management plan that should be developed for each estuary and I wanted to confirm my understanding of what you said. You felt this was a state responsibility, to develop that management planning?

MR. WEED: To develop the management plan?

MR. MALLICOAT: Yes.

MR. WEED: My feeling is this and I think I am speaking for our company and I might say, incidentally, inasmuch as the previous speaker took the opportunity to do so, that Mr. Juleson (phonetic), who is the director of water and air resources for the Weyerhaeuser Company is in the audience and I have no fear but if I make an inaccurate statement, he will correct me. But my feeling is that that management plan is a teamwork effort. It's a teamwork effort that involves local government as well as state and federal.

MR. MALLICOAT: You indicated in point number two that the principal responsibility, however, would rest with each state?

MR. WEED: I would feel that, yes.

MR. MALLICOAT: Thank you.

MR. WEED: You are welcome.

MR. POSTON: Thank you very much.

I would like now to call on Robert Baum, representing the Oregon State Soil and Water Conservation Commission.

STATEMENT PRESENTED BY ROBERT BAUM FOR MR. ELMER PETERSON

MR. BAUM: Mr. Chairman and ladies and gentlemen: I appear here not to speak for our State Soil and Water Conservation Committee, as I understand public agencies will be heard from at a later time but to give a statement prepared by Elmer Peterson, who is still recovering from a bout with a bull. He is a dairyman and he is in better shape than the bull is but he still isn't up to riding this far.

My name is Elmer Peterson. I am here today in the dual role of Director of the National Association of Soil and Water Conservation Districts and member of NACD's Shore Erosion Committee and Chairman of the Oregon State Soil and Water Conservation Committee.

The NACD is the national organization of the 15,000 supervisors and directors of the nation's 3,000 soil and water conservation districts. Through our Shore Erosion Committee, we have been actively concerned with matters relating to erosion of land along the oceans, lakes and coastal frontages of the nation. This concern has included the conservation, protection and wise use of the nation's coastal estuaries and estuarine resources. A copy of the Charter of the NACD Shore Erosion Committee is attached for your information.

The Oregon State Soil and Water Conservation Committee supervises the operation of Oregon's soil and water conservation districts. Consistent with the SWCD law, the Committee approves or disapproves all district action, coordinates the district programs, secures the cooperation and assistance of state and federal agencies, keeps the supervisors informed of activities of other districts, and encourages the formation of districts in the areas of the state not now within district boundaries.

Through these activities, the Committee extends leadership in accomplishing the intent of the legislative policy to provide:

"(1) For conservation of soil and soil resources of this state, and

(2) For the control and prevention of soil erosion, and

(3) For the prevention of damage from floodwater sediment, and

(4) For the conservation, development, utilization, and disposal of water, and thereby to preserve natural resources, control floods, prevent impairment of dams and reservoirs,

prevent stream pollution, assist in maintaining navigability of rivers and harbors, preserve wildlife, protect the tax base, protect public lands and protect and promote the general welfare of the people of this state."

The impacts of pollution on Oregon's coastal waters is of direct interest to the eight active coastal soil and water conservation districts that were organized by local people to conserve the soil, water and related natural resources along the Oregon coast. You ask the question -- "What systems of management -- local, state and federal -- will best provide for conservation and development of Oregon's estuarine resources?" Without specifically answering this complex question, we urge that local interests be involved in any such management system. Also, we believe that Oregon's soil and water conservation districts with adequate support and financing from county, state and federal levels, and with the cooperation and assistance of concerned federal agencies can do many of the conservation jobs needed in our coastal watersheds.

Therefore, we urge that local soil and water conservation districts be included in any plans for estuarine development; and that their important role in soil and water conservation, as it applies to coastal estuaries, be recognized in this National Estuarine Pollution Study.

Now, I would just like to make the comment in relation to some recommendations that were made this morning that perhaps some industrial by-products might, through research, be better used rather than just say, "Don't put them in the rivers or harbors", and so on -- to find a use for these so that they wouldn't be a pollutant; that the soil and water conservation district where we are now meeting, the Lincoln County Soil and Water Conservation District, a number of years ago, made arrangements with the Toledo plant of Georgia Pacific to have them stockpile the lime by-product that comes through that plant from their paper operation. And this is then owned by the soil and water conservation district. It is hauled out and is sold to the ranches in the county -- farmers and anyone else that wants it, at a minimum price; and they then use it for a lime or soil amendment to improve the acidity of the pastures and flower gardens or other lands in Lincoln County -- something that has benefited both -- I am sure, the harbor here, the river and the land owners in Lincoln County. So I think that this is the type of function that the soil and water conservation districts can do for this program.

MR. POSTON: Are there any questions?

(No response)

MR. POSTON: Thank you very much.

(Attachment to statement submitted
to the Reporter herewith appended
and marked as "Appendix B".)

Next, we will hear from Stanley R. Christensen from the

Oregon Association of Soil and Water Conservation Districts.

STATEMENT BY MR. STANLEY R. CHRISTENSEN, JR.

MR. CHRISTENSEN: Thank you, gentlemen. My name is Stanley R. Christensen, president of the Oregon Association of Soil and Water Conservation Districts.

Along the Oregon coast from the mouth of the Columbia River to the California border, there are eight soil and water conservation districts actively working to conserve the soil and water and protect the quality of the water. There are 55 small watersheds draining directly into the estuaries and tidal waters of the state, containing approximately 2300 farms. The Soil Conservation Service, through the Conservation Needs Inventory and River Basin Investigations, have studied these watersheds and determined their problems and needs. These needs are made a part of the District Plan of Work which is the work guide for each of these eight SWCD's. Some of the problems faced by these people are also factors affecting the pollution of Oregon's coastal waters. Approximately 2 1/2 million acres of land have soils with a wind or water erosion problem. If these lands are left bare through logging and agricultural practices, they are a threat to the quality of the water. Erosion on cultivated land, logged forest land and over-grazed pasture and rangelands is the source of much sediment in these waters. Sediment greatly reduces the attractions of streams and estuaries for recreation as well as destroying the fishery resource.

Another problem that adds to the turbidity of the water is flooding. Over 40,000 acres of land are flooded annually, contributing to the large quantities of debris as well as sediments to the streams, estuaries and tidal waters.

There are approximately 60,000 acres of sand dunes along the coast of Oregon, some of which are stabilized, for example, the Warrenton Dune area, but many acres are not. Wind erosion is another source of sediment that pollutes the waters.

Other problems exist that contribute to the pollution of our estuaries and tidal waters, but there are programs and methods of greatly reducing these problems.

Erosion that produces sediment can be reduced up to 90 per cent by soil conservation methods without changing materially the basic land use pattern. Some of these needs are reforestation, gully control and land treatment measures to reduce erosion, and sand dune stabilization. Other needed measures are river bank control and roadside erosion stabilization.

Oregon's soil and water conservation districts with needed county and state financing and technical and financial help from concerned federal agencies, can do a job of controlling sediment and reducing turbidity of waters entering Oregon's bays and estuaries.

Thank you. Are there any questions?

MR. JENSEN: You mentioned that a 90-per cent reduction in sediments from runoffs might be possible. Do you think that it is practical or is it possible?

MR. CHRISTENSEN: Anything is possible. Ninety per cent -- actually, I wouldn't say that 90 per cent is too far out of line. With the technical knowledge that we now have, if everybody was to do what they know they should do, it could be done. Maybe this is something that maybe we are shooting for the moon, but if you don't shoot for the moon, you will never even get off of the ground.

MR. JENSEN: You feel that this would be a practical goal in your Oregon coastal region?

MR. CHRISTENSEN: I think it is a practical goal. In other words, to use the technical knowledge that we now have -- in other words, there is nothing that gripes me more than going down the highway and seeing where the highway commission has built a new road and seeing half of it running down the ditch there and there is no reason on earth why they can't use a little of our rye grass, since I grow rye grass (laughter), and save these eroded banks, these banks, new cuts; because this bent stuff, all you have got to do is throw some water on it and this stuff will germinate. I know this, because I can't kill it out in my fescue field. But this is something, I think, that we all should be recognizing -- in other words, that's one problem that we have, is on highways. Let's face it.

Out here on the coast here, they had problems with sliding down. But by using some good, sound engineering and agronomy that's like I say, use some of our surplus rye grass, it is selling for four cents now. It actually got up to six and a half cents (laughter). But this is one of the points. And I am not saying that the farmers aren't to blame either. Now, I have seen fields that are left bare and I say they should be using some of this cheap rye grass too, for erosion control, green manure crops and this type of thing.

MR. JENSEN: I have got a little piece of lawn in the Washington metropolitan area with a series of check dams in it. I think this is about what you are talking about. (laughter) But, seriously, if this is practical of attainment and you feel that it is, have any -- have the soil conservations, collectively, do they have a master plan of some sort that would tell what needs to be done, what kind of resources are needed to carry out this sort of program in the Oregon coastal districts?

MR. CHRISTENSEN: We have plans and anyone that is interested, check with your local Soil and Water Conservation District and they can furnish you with the information on how to do this.

MR. JENSEN: I keep asking these questions because other people this morning have been talking about the problems of dredging and you are talking about one in effect that helps to avoid some dredging.

MR. CHRISTENSEN: Yes, this is it. Like I say, the Columbia might not need so much dredging if we would have done a better job of control upstream. In other words, the place to start on this is at the headwaters. In other words, the watershed control or watershed development and land use should start at the headwaters and then we wouldn't have the problems down here that we are talking about right now. Are there any other questions?

MR. POSTON: Thank you very much.

MR. MALLICOAT: Is most of the dredging necessary because of siltation or because of sand and gravel, do you know? Is a major portion of what they are dredging out silt from the lands?

MR. CHRISTENSEN: There is a combination of both. In other words, as I understand from what I have been told about like here, when you move the water back and forth or the tides, like here, you send a -- the breakwater or the -- that isn't the term, but anyway, out in there, you would change the current and so you are going to bring the -- the current is going to bring sand in. But one of the problems on up the line here would be the soil that has come down after from the upper watershed. In other words, in the logging process -- and I have just met Mr. Luden (phonetic) -- I am not going to take a whack at Weyerhaeuser, but let's face it. Forty years ago, before the major logging companies become rather educated and began to see the light, they didn't take the care that they do now when they were logging. In other words -- and this has contributed to the problem that we have here now. Are there any other questions? (No response) Thank you.

MR. POSTON: Thank you very much. Our next speaker is to be Mr. Ernest Josi, North Coast Resource Planning Group.

STATEMENT BY MR. ERNEST JOSI

MR. JOSI: Chairman of the Board, ladies and gentlemen: I am just another farmer up here, so you can take a whack at me like the one you got done with Chris there.

I am Ernest Josi, Chairman of the North Coast Resource Planning and Development Group, and I am from Tillamook County. The North Coast Group is comprised of Soil and Water Conservation District Supervisors and concerned people from Tillamook, Clatsop and Columbia Counties. The Soil and Water Conservation Districts are actively involved in development and protection of natural resources.

We are pleased to have the opportunity to participate in this national study of pollution in our bays and estuaries.

And we'll submit some findings from the three cooperative reports dealing with our rivers and basins draining our entire coast. These publications are "The North Coast Basin, Mid-Coast, and South Coast Drainage Basins", are the cooperative efforts of the United States Department of Agriculture, Soil

Conservation Service and the State Water Resources Board of Oregon. We believe these will be of value.

Although Youngs Bay and the Lower Columbia River lie within this tri-county area, I shall deal mainly with Tillamook Bay with which I am familiar.

We in Tillamook County have 16,860 acres of bays. This isn't much, but it is all there is and when this is spoiled, there will be none.

You are concerned with water quality in the bays and estuaries and we are concerned with the quantity and quality of the waters in our rivers as well as our bays and estuaries. Our rivers affect our bays.

The farmer and agriculture are often accused of damaging the rivers, streams, bays and estuaries with pollutants, but it is sediments from our mud-carrying rivers during the floods which are filling our bays and estuaries. These sediments are one of our most pressing problems. These sediments are not primarily coming from farm land. Highway construction, logging operations and developers of land all contribute to our sediment problem. In Tillamook County most of our cultivated land is in pasture and there is very little runoff and less erosion. There is excessive streambank erosion which occurs during floods of high water. In Tillamook County we have 200 miles of streambanks which need protecting. These rivers and streams are relatively short, but have tremendous grade and have their origin in 120-inch rainfall zone. Rock riprap is the most economical means of protecting our banks at the present. Currently, this rock riprapping is being done by private landowners with technical assistance from the Soil Conservation Service and financial cost-sharing from the Federal Government through the Agricultural Conservation Program. If we are to protect our bays and estuaries, we must protect and prevent this upstream streambank erosion. The present rate at which riprapping is being established is slow and costly to the individual landowner. But, upstream protection you must have before you can have good water quality in the bays and estuaries.

You ask about the damage, pollution, and the future of our bays and estuaries. The answer is grim. They will have a short life until this annual deposit of silt is drastically curtailed. They will become marshes instead of bays and useless to industry and recreation, both public and private. We would strongly recommend to the State Board of Health that they complement their bacteriological survey with turbidity tests to determine precisely how much sedimentation is occurring in not only the bays and estuaries, but in our lower rivers also. If the lack of personnel is the limiting factor in collecting these turbidity samples the North Coast Resource Area and the Soil and Water Conservation Districts stand ready to cooperate in collecting these samples. We feel that this unknown quantity is vital to any comprehensive study of our bays and estuaries.

Lastly, we feel that the over-lapping authority jurisdiction and management of our bays and estuaries should be cleared up by legislation, and, that a single source, State Governmental Agency, coordinate the comprehensive plan for the development of our entire Coastal resources for the protection of all segments of our society, both public and private.

Now, I would like to ad lib a little bit too. We haven't got any axe to grind with anybody on this because everybody has to live. You can't fill in a little bit of today because a private land owner wants to develop and shouldn't tell a logger that he has to quit logging and don't tell me that I can't put on fertilizer some times of the year because we can all live with this, if everybody cooperates and does their part. So, this is about all I have to say.

MR. POSTON: Thank you very much, Mr. Josi. I am next going to call on Sam Hayes, representing the oyster grower's association.

STATEMENT BY MR. SAM HAYES

MR. HAYES: Mr. Chairman, panel, ladies and gentlemen: My name is Sam Hayes and I represent the oystermen on Tillamook Bay. We don't have a formalized association. It is rather loose but we have all more or less agreed on what I have to offer here.

Now, I believe I had better give you a little of the background on this and I will define perhaps, I might say, of the terms that I am going to use. First, when I mention "pollution", I wish to only discuss human waste, because this is the one thing that, as an oysterman, we are very definitely concerned with on the Tillamook. And when I mention "land areas" that the oystermen use, why, it will be in percentages -- it will be of the land area that is available, not of the total areas -- as the man said, 60,000 acres. Because -- I really don't want any misunderstandings about this and this meeting has went on in a very happy note all so far and I feel that probably, I am going to throw a few clinkers in it, so here we go.

I represent the oystermen of Tillamook Bay, Tillamook County, Oregon. There are four companies operating on this bay at this time. We are the survivors of perhaps one hundred and fifty operations that have tried and for one reason or another failed.

In 1870, the Oregon production of oysters was approximately one hundred thousand pounds. This was on public lands and it finally decreased to zero pounds in the early 1920's. In other words it took the public fifty years to completely destroy an industry.

In 1931 the Oregon State Legislature passed an oyster act allowing certain tidelands in Tillamook Bay to be taken up in a prescribed manner for oyster culture. By 1933 the oyster production was thirty thousand pounds. Now, this is pretty good. We went from zero pounds in two years to thirty thousand pounds under, you might say, new management of where we were just struggling and trying. But we made this initial effort and we got her to going. Now, in spite of the fact that the oyster culture is at best a very hazardous business it has shown a steady increase in spite of major setbacks. In the year of 1967, production was 400,000 pounds, in 1968 will in all likelihood go to 600,000 pounds and 1969 it will be very close to a million pounds. Now, this is not figures that have been projected in terms of what, if I do this and do that, and so on. This material is all on the ground. It is on the ground today. It is growing, it is thriving and with a few ifs, which is really not in our hands, why, this will happen.

In 1952 and 1953, the United States -- this is the whole United States, they produced 82 million pounds of oysters. Fifty-two million pounds was produced fifteen years later, in '65 and '66 and 45 million pounds is the estimate for '67 and '68. So we feel on Tillamook, that we are doing a pretty good job and that as everything is going, it soon will be rated as nationally important.

There are a few ifs involved in these figures that are not yet obtained but they lay in other hands than the oystermen's, for instance:

If the oystermen are forced to move large beds of oysters because of pollution, as I was at great expense, or if the growing areas are shrunken by pollution, or if the final blow was struck, which it could be by the Public Health Service, the Shell Fish Section or the State Board of Health, to close the growing areas during the rainy season, which is said to be from October to May, which is the oyster season, gentlemen, and with that goes the oyster industry.

Now, this -- I should have explained this first, but this is the reason I am here. We had rumors of pollution and we have had little troubles and there have been different things happen in our industry and every year now, for a number of years, the State Sanitarian has had a fight with the -- I won't say a fight, but he has had a confrontation with the federal authorities as to whether or not Oregon was going to operate during the rainy season. And I don't know whether I felt like the ostrich business, if I say nothing and keep quiet and go away. But the last couple of years, I have gotten terribly frightened and concerned and when this meeting came up, I welcomed the chance to have something to say about it.

And one of the reasons I don't like it, in our county up there, we are a very small county. We have got many more cows than we have people and our population has dwindled in the last twenty years. But apparently, our pollution hasn't because we hear a little more about it all the time.

There are three corporate cities and several small communities and two relatively large industrial complexes and one smaller one and this makes up the main source of pollution. These places that I mentioned are apparently not doing the job on sanitation that is required by laws. So it would appear that the laws are weak, the authority is weak or the people just don't care. Perhaps it's all three. I have found that the attitude prevailing is that when most people flush that toilet, they don't care where it goes, just as long as it goes. The fact that this meeting has been called today indicates that the responsibility must reach much further.

In the fall of the year, there is a small portion of the bay used by sports fishermen. At one time, they use about five per cent of the water area. There is a small commercial crabbing industry in the bay. The commercial clamming has not been developed to any extent. The main use of the bay is for oysters and for recreation. The oysters use about fifteen per cent of the underwater land area. Now, I will try to qualify that so we understand this. There is a certain amount of land that has been set aside for oyster culture and the oystermen use about fifteen per cent of this area. And most all the rest of it is used, you know, it is a recreational -- water-skiing and clamming and so on. And now in the South Bay, there is approximately six hundred acres in South Bay and fifty acres in the Miami Cove area. Now, this is all oyster land and it cannot be used because of pollution.

And in the Miami Cove area, I planted twelve acres of this property, not knowing the situation. It cost me sixty-six hundred dollars to put the seed on the ground. When I got ready to harvest them, the State Board of Health ran a routine check on the area and found it grossly polluted. I moved most of them by hand in the summer of '67. The labor was thirty-one hundred dollars. The mortality involved in the moving brought the yield down to a point where the recovery was so poor that the oysters could have been purchased on the open market for five thousand dollars, or probably less.

Now, this is the first time that I have ever said a word in public concerning this matter or to the people that are responsible for it. And I have it on excellent authority that as an industry, we are not very well liked. It seems that our oysters have gotten in the way of their sewage disposal system for this city.

And it is a conclusion and in conclusion, we do not believe that the State of Oregon agencies can move fast enough as their present rate of progress indicates, to save our industry from pollution.

Thank you.

MR. POSTON: Are there any questions? Mr. Mallicoat?

MR. MALLICOAT: Mr. Hayes, are there other compatible public uses of waters in which oysters are cultivated?

MR. HAYES: Well, clams grow around them and they use the water above them.

MR. MALLICOAT: Is boating -- (interrupted)

MR. HAYES: No.

MR. MALLICOAT: It's compatible?

MR. HAYES: Yes.

MR. MALLICOAT: Fishing -- recreational uses generally?

MR. HAYES: Well, not fishing, because -- well, there just isn't any fish there. If there was, it would be, but fish don't frequent these places.

MR. MALLICOAT: Oh, I see.

MR. POSTON: Any other questions?

MR. JENSEN: You mentioned about a million pounds or 400,000 pounds of production this year. How many acres does that come off of?

MR. HAYES: This is now being taken off from about -- I think the industry now is harvesting about two hundred and fifty acres so in other words, it is on a three year basis so it is probably farming about seven hundred acres.

MR. JENSEN: What do you think may be the future for all this so-called Japanese style of oyster culture -- culture on racks or on rafts, or something like that?

MR. HAYES: Well, it is absolutely fantastic. Mr. Baker mentioned it earlier and I don't know whether he ever saw it or not but just recently, I saw where it is being tried in another area and Tillamook has what is known as a very fast-growing oyster. And this other bay is a slow-growing oyster, normally; and they can grow an oyster there in ten months that is larger than ours in two years; and they have no mortality, the meat quality is good and everything about it is just excellent.

MR. JENSEN: Is this in Japan or in the United States?

MR. HAYES: No, it's in the United States, in Humboldt Bay. And it is a matter of investment and learning the technique.

MR. POSTON: Could you estimate the value of your industry in Tillamook Bay annually? Four hundred thousand pounds?

MR. HAYES: It runs about a dollar a pound.

MR. POSTON: About a dollar a pound?

MR. HAYES: Yes, and it probably goes to about 400,000 this year.

MR. POSTON: Well, thank you, Mr. Hayes. Mr. Thomas C. Donaca.. I hope I pronounced that correctly, of the Association of Oregon Industries.

STATEMENT BY MR. THOMAS C. DONACA

MR. DONACA: Mr. Poston, members of the panel: My name is Tom Donaca. I am counsel for Associated Oregon Industries. We are an association of eleven hundred employers in this state, a number of whom are here on the coast.

These people employ approximately half of the non-agricultural, non-governmental work force in this state.

As an association, we have had a standing committee on air and water quality for some fourteen years. Representatives of a special technical sub-committee of that committee made appearances on behalf of industry at several of the hearings conducted on the new interstate water quality standards, which include the coastal waters of this state.

As an association, we are also concerned with solid waste control, submerged and submersible lands. We also have an interest in, although little direct activity in, industrial land use.

As corporate citizens, we are concerned not only with this issue from the standpoint of industrial utilization of our resources, but because of the liveability of this state, for our employees.

Again, as most of us today, I do not appear as a technician, except in endeavoring to find out something about the estuaries of this state, I found that there was little knowledge available. Thus, to the extent that this hearing focuses attention on Oregon estuaries, it should bring to the attention of Oregon citizens, the need for further knowledge on the management of this resource, for its present and future beneficial uses.

We have elected to speak today with regard really to the five points raised as to the frame of reference or the assumptions upon which these hearings are held; and to these, we will comment.

One, we recognize that estuaries do have a high or potential high economic and social value. In Oregon, we find concentrations of our coastal population on the estuaries. Most of our highways, from the interior to the coast, end on the estuaries. As our population grows, there will be further use for residential, recreational and industrial uses.

Second, as to water quality -- the Oregon State Sanitary Authority has held its hearings on coastal waters as required by the 1966 Clean Waters Act; and the standards they adopted pursuant to those hearings have been approved by the Secretary of Interior. Therefore, our Oregon State Sanitary Authority has the authority and the jurisdiction and the duty to protect the water quality of our estuaries. We have no doubt that they will carry out this responsibility.

As to land use restrictions, we believe that the state and local governments, such as cities, counties, port districts and some state agencies, have various responsibility for land use and zoning. These agencies should and must take greater cognizance in their planning, of information provided by our sanitary authority and other authorities that have answers to the problems that are being raised by this hearing today.

If, however, it is implied that federal intervention into local affairs is contemplated by land use restrictions, or further reduction of our property rolls by federal acquisition or unilateral reclassification of our beneficial uses of the estuaries, these actions would have a severe blow or be a severe blow to our Oregon regional economy -- coastal economy, I mean, and should, in part, at least, be resisted.

Thirdly, obviously, there will be an increasing use of our estuarian resources -- just as there will be greater use of all of our natural resources. This is inevitable. Cooperative planning now by affected state and local agencies can provide answers and plans needed for the management of the resource, which will be required by more intensive future utilization. This should be started now.

Fourth -- in the field of research, there does appear to be a real place for federal participation. Broad, basic research, which will be required on a national basis, if this study is to go forward, is probably essential and this can probably be best done or coordinated by the Federal Water Pollution Control Administration or other federal agencies. Such research should, however, take advantage of local knowledge and ability and this should be sought out.

Fifth -- maximum public returns from the values provided by our estuaries does seem essential; and we assume that all beneficial users are members of the public in this context. We believe that this can best be accomplished by (a) greater cooperation between our state agencies, such as the Sanitary Authority, the Fish Commission, the Game Commission, the Highway Commission and its parks division and our Land Board; and the local government, such as county, cities, port districts and some others that I wasn't aware of, who have testified here today -- to plan for the proper and best use of the resource consistent with the economic needs of the area and the beneficial users.

(b) The Federal Government to carry out major research programs or to support state or local agencies in such undertakings and to continue as the Federal Water Pollution Control Administration is presently charged with doing under the Clean Waters Act, namely, to continuously evaluate the program carried out by the Oregon State Sanitary Authority, as to implementation, standards and enforcement, as the program was originally approved by the FWPCA.

Any program looking toward the future and better management of our estuarian resources must be carried forward with a high degree of cooperation and this is in the best sense of the word, between all affected agencies -- federal, state and local; and efforts of any one agency or type of agency to assume primary or total jurisdiction should be avoided. This does not mean that leadership should not be provided by someone.

To conclude, Oregon estuaries, in our opinion, are primarily an Oregon resource. We hope that Oregon governments and Oregon people will meet this challenge and always retain the primary responsibility for management. To this end, we, as an association, stand ready to assist in whatever manner we can.

Are there any questions?

MR. POSTON: I believe not. Thank you very much, Mr. Donaca. I am now going to call on the Izaak Walton League of Oregon, represented by A. N. Haroun.

STATEMENT BY MR. A. N. HAROUN

MR. HAROUN: Mr. Poston, gentlemen of the panel, ladies and gentlemen: I am Al Haroun, vice-president of the Oregon Division of the Izaak Walton League; and this statement is presented on behalf of the Oregon Division and the Portland Chapter of the League.

As the leading citizens conservation organization, we are vitally interested in the conserving and the developing of wildlife, fisheries, recreational potential of Oregon's remaining estuary areas. It is important to protect these areas from indiscriminate industrial and urban development. The rate of dredging and filling of coastal bays and estuarine waters has increased rapidly for purposes of navigation, removal of shell deposits and other minerals, poorly planned recreational developments, and industrial and residential real estate development. It is important to remember that nationwide, about 65%

of all our commercial fish, shellfish, and most marine sport fish species are directly dependent upon the estuarine environment during all or part of their life cycles. The obliteration or substantial modification of bays and estuaries will vitally impair recreational, food, and esthetic resources of national, state, and local significance.

In addition to total destruction of an estuarine environment by development for other economic uses, the matter of pollution of remaining areas is of critical concern. Pollution includes siltation from dredging and filling operations, sediment resulting from accelerated erosion on logged over areas and critical watersheds, discharge of oil, industrial plant wastes, sewage and other toxicants. The possibility of the development of thermal nuclear plants can result in temperature changes which is also a form of pollution; or "enrichment", as some say.

Temperature changes can set up a change in reactions in the ecological balance of the living resources affected, however. Solid wastes discharged into estuarine areas can result in destruction of fish and wildlife habitat and esthetic values. Although not presently finitely measured these receive accelerating adverse effects of waste disposal. Vigilance will be required if the environmental resources upon which fish and wildlife depend are to be maintained at present levels or increased through proper management techniques.

We feel it is imperative that adequate safeguards be provided to estuarine areas to prevent further demolishment, alteration, or poisoning of the environment in the name of economic development. Of special significance is the fact that the biota of these areas cannot be replaced in another environment. The organic materials produced there not only enrich the estuary but are carried to sea along the shallow coastal zones, adding to the productivity of food chains upon which the coastal fish and shellfish depend during crucial periods of their life histories.

Continuation of damage to estuarine areas can be averted or substantially reduced. Each Oregon estuary should be surveyed separately to determine its exact value and criteria should be developed to protect plants and animals dependent upon this environment. Some items which affect these areas include landfills, navigation improvements, gravel and sand mining, chemical control of mosquitos, marsh impoundment, highway construction, water control and others.

It appears that many shoreline projects are not necessarily inspired by the public interest but by private interests which stand to gain economically by project development. The need for positive conservation of Oregon's estuaries is urgent. Jurisdiction for the management of these estuaries must be clarified.

The Isaak Walton League recommends that the management of Oregon's estuaries be vested in the state, with cooperation with local governments and agencies, with the assumption that the state will accept this responsibility and that positive action be taken by the state to prevent further irreparable damage to these valuable resources.

Thank you for asking us to appear today.

MR. POSTON: Are there any questions?

MR. JENSEN: Your statement about the role of the state is very clear. What would you say the role of the Federal Government should be?

MR. HAROUN: We feel that it should be similar to the existing framework of the water pollution control -- a backup of the state.

MR. POSTON: Thank you very much for making this trip down here today. I next will call on E. L. Cornett, Port of Tillamook Bay.

STATEMENT BY MR. E. L. CORNETT

MR. CORNETT: Mr. Chairman, members of the panel, ladies and gentlemen: I am here more today to make an explanation of what we are doing about this problem and to thank these folks that have helped us in this past year with the endeavor that we knew nothing about and got into all at once and over our heads. I will go ahead with my prepared statement:

My name is E. L. Cornett. I am a commissioner for the Port of Tillamook Bay. I represent the Port of Tillamook and the Port of Bay City here today.

At the present time, the Port of Bay City has an engineering firm updating the sewage disposal plant for the City of Garibaldi. This is in cooperation with the State Sanitary Authority. They realize they will be spending more money than is necessary for the present population but these people are looking ahead to the expected population explosion of 10 or 20 years from now, and this facility will be built to take care of their needs.

On September 1 of 1966, the Port of Tillamook Bay unexpectedly became the controlling agency of the old Naval Air Station and Industrial Park. At that time, the State Sanitary Authority had been very impatient with the former Naval Air Station controllers, in that raw sewage was dumped directly into the Trask River.

Our Port asked for a year's extension for a new sewage disposal plant. At the time the extension was requested, it was authorized by the State and Federal authorities to give us a chance to build the necessary sewage disposal facilities.

January 1 of 1968, the new sewage treatment plant was completed at a total cost of $76,500. In looking ahead, this plant is built to take care of ten times the amount of sewage that is presently treated. In the Industrial Park, there are three main agencies -- the Bureau of Land Management constitutes about 50% of the use of our sewage facilities; the

Job Corps is located there. We have the McLaren Boys' Camp, and in our industrial complex, we have sawmills, shingle mills and manufacturing plants that also add to our problems.

These obstacles were overcome and our facilities completed within the proper time due to the help of the State Sanitary Authority, especially Kenneth Spies, the Federal Water Pollution Control Administration, namely Mr. Richard L. Poston. Our state local Sanitary Inspector has been of great help in our area, and our Port is cooperating with him in every way we can to stop the pollution of our streams from other sources.

That's the end of my prepared statement. However, I would like to make a comment. It hasn't been made so far here to any extent and I would like later on to send a comment to this group on it and that is, the silt filling at the mouths of our rivers, where they empty into our bays. In years past, this logging has gone on, logs have sunk to the bottom of the entrance to these rivers and silt has collected over this and it has been a continuing process. At the present time, the mouths of our bays, instead of coming out in one channel, are opening out into a group of fingers, creating a dam-like area in these places. I assumed that other people had the same problem that we did but I haven't heard it mentioned here today and I think it is a real problem that should be taken a real look at.

Thank you.

MR. POSTON: Thank you. I might say for your benefit, that there is a representative, General Yates of the Corps of Engineers, and I am sure that he listened to your last statement.

MR. CORNETT: Thank you.

MR. POSTON: I would like now to call on Paul P. Rudy, University of Oregon, Institute of Marine Biology.

STATEMENT BY MR. PAUL P. RUDY, JR.

MR. RUDY: Thank you, Mr. Poston, members of the panel, ladies and gentlemen: The University of Oregon maintains a permanent and year-round marine biological station, the Oregon Institute of Marine Biology, at Charleston on Coos Bay.

The estuarine environment is of especial interest to the Station as it is an excellent natural laboratory for studying the comparative aspects of aquatic biology. The estuary also supplies different stages in the life histories of a great many organisms, organisms which can be obtained in no other place.

Water for the Station's sea-water system is pumped from within the Coos Bay estuary. Only water of good quality is suitable for the experimental research performed in the Station's laboratories.

The condition of the Coos Bay estuary then is of great importance to the Station. Indeed, the Station cannot function as intended, once Coos Bay estuary becomes too heavily polluted.

Already the upper reaches of Coos Bay are heavily polluted and dissolved oxygen drops below 4 parts per million. Even in that part of the estuary well washed by tidal flow, there is serious pollution. A large portion of this pollution arises from a single pulp mill located between North Bend and Charleston and is responsible for decimating 60 acres of estuarine bottom life. The same sort of situation was noted back in 1944 by Maxwell Doty, when he was studying this area, and stated that the change from a strictly marine type algal flora to the brackish water type is interrupted and obscured by the presence of pulp and sawmills at Empire.

Closer to the Marine Station is the town of Charleston, which deposits approximately 160,000 gallons per day of untreated sewage and waste into the estuary. Approximately 60,000 gallons per day of this comes from the seafood processing plants and contains large amounts of organic materials and detergents.

In spite of this pollution the seawater supplied to the laboratory is of fairly good quality, but only because the intake is located very near the mouth of the estuary and we are careful to pump only on the higher portion of an incoming tide.

The future use of the estuary, insofar as the Marine Station is concerned, depends upon the condition of the estuary. If this estuary becomes any more polluted, we shall certainly have to pump our sea-water from the open ocean, a costly and difficult effort. When this point is reached, however, Coos Bay's usefulness as a natural laboratory will be seriously limited as only organisms capable of living under polluted conditions will remain.

We recommend the following:

That there be a careful monitoring of pollution in the Bay over a period of several years. I think this is where the Federal Government can help out; and that realistic standards be set for Coos Bay.

The control of water quality within the estuaries be placed under a single state agency.

That the Oregon State Sanitary Authority not renew the waste discharge permit of the Coos Head Timber Co. -- now, this is being a bit specific, but I think it is important -- when it expires June 30, 1969. This permit should not be renewed unless there is a high degree of reduction of pollutants from this mill's outflow. This was just renewed a couple of months ago.

We further feel that a secondary sewage processing plant be constructed at Charleston and that this processing plant be of sufficient capacity to handle both the seafood processing plants and the domestic sewage.

I realize that this is fairly specific, but this is what needs to be done in our immediate area and done fairly quickly. Thank you.

MR. MALLICOAT: Mr. Rudy, is it correct to conclude that in your opinion, pollution is actually increasing in the Coos Bay area or is it about the same as it was, say, in 1944, or -- (interrupted)

MR. RUDY: Well, of course, this was the immediate thing I tried to look for when I wanted to come to this meeting; and it's very hard to follow this because there haven't been the long-range studies. At one time, there was a large native oyster population within Coos Bay. There is none. Certainly, this one mill, it's putting out more and more all the time. Obviously, pollution is increasing here. We are lucky with the Coos Bay in that it has a deep mouth, it is well washed by tidal currents and is a well-mixed bay, so the washing is fairly effective.

MR. MALLICOAT: So there is no evidence really, as to whether pollution is getting worse or better or staying about the same?

MR. RUDY: I am sad to say there isn't, no, that there has not been the study made to actually pin this down.

MR. JENSEN: Could you say anything about the history of the oyster industry in the Coos Bay that you are personally informed of?

MR. RUDY: No, I know that there is a small oyster industry in what we call the South Slough. I haven't -- I have been there a short time myself. I haven't followed this. I do know that there was, at one time, a very large native population which has been completely destroyed.

MR. POSTON: You made a plea for realistic standards in Coos Bay. You feel that the standards existing now are not realistic?

MR. RUDY: By "realistic standards", I mean that -- I was thinking more in terms of the various bays, actually. I haven't really checked into the standards closely enough to find out how they would fit each particular bay. I think they may not be.

MR. POSTON: Thank you very much. James L. Wharton, Tillamook People's Utility District will be our next informant.

STATEMENT BY MR. JAMES L. WHARTON

MR. WHARTON: Thank you, Mr. Poston. Ladies and gentlemen, my name is James Wharton. I am president of the Board of Directors of the Tillamook People's Utility District, Tillamook, Oregon.

Tillamook People's Utility District distributes electric power throughout Tillamook County and is sincerely interested in the further development of our bays for industry and recreation.

The greatest source of pollution in the bays of Tillamook County is the silt which is being washed out from our coastal river beds and deposited in the mouth of the estuaries. If the build-up of silt deposits in our bays continues for another 20 years, all of the bays of Tillamook County will be nearly low-lying swamp land for the use of no one.

The problems we have in Tillamook County -- I am going to diverse a little bit here and go down into the Nestucca Bay. I am a professional guide on the Nestucca River and it's the major river that runs into Nestucca Bay. Our biggest problem is, like Mr. Cornett said, from the Tillamook Port, is with the silt pollution. I don't have the answers on how to accomplish this but these are the things that I would like to see done: I would like to see some type of an entity that had the power to cope with not only private -- I see that they take a shot at Weyerhaeuser but let's take a shot at the BPR and BLM a little bit. These are the biggest pollution causes in our area. And by this, I mean, they build their roads right up the stream beds, don't take time to reseed them, make tremendous cuts and tremendous fills and leave them raw, so that the rain, which we have -- I am sure it's over 90 inches. I don't have the figures on this rainfall either, but these are the things that fill the stream with mud. Private people do this too -- Publishers Paper and probably one of the others that's real bad about this. Some of the things that I think could be done -- of course, there again, you have got to be strong enough. You have got to have an entity strong enough to handle some changes in contracts with the gyppo loggers that are logging with the BLM and the BPR. Private timber people, the same way -- the things I would like to see, I would like to see them leave a strip of timber on the stream beds. I would like to see them be forced to reseed these cuts and fills before they leave their road beds finished.

I would like to see them build their roads -- rather than down the stream beds -- and of course, this is simpler and easier and is going to cost less money, I would like to see them build them on the ridge banks so that you don't have the big cut and the big fill to worry about with seeding. If they would build their roads on the ridges, if they would cut -- when they do make cuts and fills, if they would reseed, we wouldn't have the problem with dredging in the lower river. I think the biggest dredging problem is of course, due to silt in our area. It isn't due to gravel removal or some of these things.

A lot of the companies -- and I think this is true of even the Government -- BPR and BLM people, that they are making strides in this, but not near fast enough. The river will come up through a little flood water raise and come up six feet and the standard winter raise is two feet. Okay, we got four feet of extra water in and this takes sometimes fifteen days to clear, down to where it is usable as far as a professional guide again. Ten years ago, this didn't happen.

Of course, we didn't have these major roads -- the Bureau of Land Management built a twenty-six-mile road from Beaver, Oregon, right straight out up the Nestucca River and right out over the top up to Meadow Lake. Well, when they put these cuts in and fills in, every year, when the rain comes, they slide into the river and here comes the sleet and here comes everything, end over end.

And we would like to see the installation of water control projects on the large streams in Tillamook County. We think that it would be absolutely necessary. The extreme flood water could be contained and released during the low water period to maintain adequate stream flows and adequate temperature. We have a real problem with low water and I am sure every stream in the Northwest has this problem, due to logging or whatever you will. We have a gradual warming up of our summer water in the river, and this is detrimental, of course, to all the fish. Storage water could be used productively in electricity and, of course, would be available for irrigation, industrial water and domestic uses.

We lost the chum salmon fishery, which at one time, harvested over seven million pounds annually from Tillamook Bay and it has virtually disappeared. This has been caused principally by the extreme flood water washing away the spawning gravels and depositing them in our bays and in our estuaries.

Artificial propagation of the chum salmon fishery should be expanded under the present program of the Oregon Fish and Game Commission. The Netarts Bay shellfish experimental farm should be greatly expanded and the artificial propagation of all types of shellfish be expanded at an early date.

The world population explosion is going to put greater and greater pressure on the harvest of food from the sea. The way to eliminate these problems is to develop artificial means of increasing production for the immediate future.

Do you have any questions?

MR. POSTON: Do members of the panel have questions?

MR. JENSEN: Are you talking about Federal lands?

MR. WHARTON: No, not Federal lands. If I inferred this, I want to clear it up. These people build -- the Bureau of Land Management and the Bureau of Public Roads build access roads to massive timber sale areas. Our area is blessed with a tremendous amount of logging timber. It grows rapidly and -- (interrupted)

MR. JENSEN: But is the timber sale on public land?

MR. WHARTON: Public and Government. Federal timbers come out on these roads also. Both of these people are guilty of the same thing. In my estimation, they build their roads in the valleys in the stream beds rather than up on the ridges. This is my major criticism of them.

MR. POSTON: Could these roads be built in the valleys, provided they would install suitable protective devices and reseeding the slopes?

MR. WHARTON: Well, it would certainly be a help. I would like to see them leave a strip of timber on each side of these little streams. Of course, the logging companies are they are not going to agree with this at all because this entertains changing around towers and head rigs and everything. But if you could leave a hundred yard strip of timber in these stream bottoms, you can build your road along the edge of this and way cut the limit down of your encroachment of silt into the actual stream bed. This is going to be expensive and maybe it isn't the answer, but then, this surely would help.

MR. JENSEN: I think you are saying that we need to completely re-examine logging practices and road-building practices in these coastal areas?

MR. WHARTON: Yes, I think that the engineering that is in these particular access roads should be -- absolutely should be analyzed because there is a better way. They will make cuts a hundred and fifty feet right in the edge of a stream. Well, tons and tons and yards and yards of mud comes out every winter and never stops. This is where we are getting our silt, I think.

MR. JENSEN: The county that I livedin in Maryland and a suburban county in Washington, we have the same problem, and generally to get rid of the bottom silt, recently have adopted some legislation requiring silt control. This is virtually what you have been talking about so I feel like I am at home.

MR. POSTON: Thank you very much, Mr. Wharton. Mrs. Richard M. Noyes, Sierra Club, Pacific Northwest Chapter.

STATEMENT BY WINNINETTE NOYES

MRS. NOYES: Mr. Poston, Committee, ladies and gentlemen: My name is Winninette A. Noyes and I am vice-chairman of the Pacific Northwest Chapter of the Sierra Club. The Sierra Club is a national organization with twenty-two chapters and is also another leading citizens' conservation organization. Today I am representing only the Pacific Northwest Chapter, probably chiefly because I didn't get around to writing the main office and besides, the Pacific Northwest Chapter deals particularly with the Oregon-Washington-British Columbia and Alaska areas and coastline.

The statement which I would like to make for the chapter is that the Pacific Northwest Chapter of the Sierra Club supports efforts to identify and preserve the nation's estuarine areas, and from the chapters, especially those along these coastlines that I have just mentioned. I might also add parenthetically that another conservation group of organizations, the Federation of Western Outdoor Clubs, has essentially taken this same stand. I am not representing them as such today, but they have adopted this position which I am very sure of, so we have the Sierra Club, which is a member club of the federation and the Federation of Western Outdoor Clubs.

Of the many points I might stress today, I would like to stress only one point which has been taken care of quite eloquently a short time ago but on which I would like to comment a little more -- and this is the preservation of the ecological habitat for a number of marine organisms. We have heard about fish and oysters and sea birds but I think another very important example, which includes most of the rest of the marine organisms, is very necessary because when you have a situation which maintains this type of a situation, that can support these many marine organisms, you have conditions which are, from a preservation standpoint, good; and when you start destroying many of these things, you are immediately destroying your oxygen potential and destroying the -- destroying the possibility of maintaining your oyster beds and these various other things.

The Fish and Wildlife Service tells us that almost four per cent of the twenty thousand acres of important habitat along the coast of Oregon has been destroyed. And from what I hear today, I suspect that it is still more than that. I feel that it is very important and I am sure the Club does too, that non-biological development along the coast -- the non-biological development of these estuaries, come as much as is possible from the rest of the fifty-seven thousand acres of habitat where the biological potential is not as important.

I would like to put in a slight personal note which probably is the reason for my talking on this today. I had the good fortune to spend my summers as a child at another Newport Beach in a state which now has destroyed sixty-seven per cent -- again, a Fish and Wildlife Service figure, of its important estuarine habitat. This Newport Beach appears in my memory as a relatively undisturbed estuarine harbor, with a few houses and a few fishing boats. As the years went by, there was dredging, new islands with houses and more people and more boats. Sand bars disappeared and with them, the sand dollar, the sea pansy and other marine forms and the nesting sites for a number of ocean birds. I don't know what has happened to the adjacent tide pools, with their sea urchins, nudibranchs and hermit crabs, but I can only imagine, with the vast hordes that are now living at that Newport Beach.

The Oregon coast is still relatively free of the deluge of people that have hit the California coast in increasing numbers and I think it is particularly important that while we can, we should make provision for maintaining some areas -- of course, it is not possible to maintain them all, but to maintain the best of these marine areas, with their diverse biological fauna and flora, and the myriad larval forms which also occur in these same high-oxygen content areas.

In summary, we hope that by careful planning, most of Oregon's marine habitats can be preserved and we appreciate your concern over our remaining unpolluted estuaries.

Thank you.

MR. POSTON: Any questions? (No response) Thank you very much. The next speaker will be Archibald Pye, of the North Coast Resource Association. Mr. Pye.

STATEMENT BY MR. ARCHIBALD PYE

MR. PYE: Mr. Chairman, members of the panel and ladies and gentlemen: My name is Archibald Pye and I live at Tillamook, Oregon. I am a member of the State Water Resources Board and chairman of the Tillamook County Water Resources Committee.

Our committee in over six months of study of Tillamook estuarine lands have developed this report and recommendations:

The small acreage of marine bays in Oregon, less than one-tenth of one per cent of Oregon, only emphasizes the value of this scarce and valuable asset.

An increasing intensity of use and the overlapping jurisdiction for estuary management in Tillamook County is creating a crisis. Proper planning is needed now to safeguard this natural resource.

The importance of Tillamook estuarine lands may be measured in a way by the following: Nine thousand clam diggers in Tillamook Bay harvested a minimum of 171,000 clams from a 16 acre bed. This is the production of one ton of clams per acre. Dungeness crab is an important crop on Tillamook's bays. Oyster production averages several hundred thousand dollars to the growers and could be much higher if technical production and out-dated legislation production problems can be solved. It is presently projected that Tillamook Bay alone will produce three-quarters of a million gallons of oysters by 1970. The offshore tidewater and river salmon fishing depends on the saline environment of the estuary for the salmon and steelhead to complete their life cycle.

The committee recommends the following, based on report by commercial fishermen and Oregon Chapter of the American Fisheries Society.

That an immediate inventory be made by all local, state and federal agencies involved, on all Tillamook County estuaries relating to their present and potential uses from the commercial-industrial, natural resources and public points of view.

From this inventory the objectives of management of the Tillamook County estuaries be identified and agreed upon.

The jurisdiction for the management of Tillamook County bays and estuaries must be clarified. Areas of overlapping authority must be cleared up by appropriate legislation.

Dredging and other alterations within our bays must be stopped until an overall plan is adopted for each bay. Plans could be made now to dispose of spoils resulting from rehabilitation of bay channel from Garibaldi to the Burton Bridge.

Where an insufficient amount of information is available to make a policy or management decision, research should be undertaken to provide the necessary information.

State water quality standards, which are now established for all estuaries, should be studied to determine whether separate standards should be set up for each bay.

We would recommend the management of public lands, fisheries and so forth, be vested in the state, assuming, of course, the state will accept this responsibility and manage the bays for the best interest of all. Other areas adapted to management of port commissions should be left in their hands or delegated to the county court.

The value of Tillamook County bays should be explained to all citizens from the kindergarten to the golden age through educational programs set up to better develop public understanding and appreciation and we commend the out-of-door schools as sponsored by Tillamook School District No. 9.

Studies should be implemented on rare or endangered species of shellfish in Tillamook Bay or others in Oregon.

I thank you for this opportunity of appearing before you at this hearing.

MR. MALLICOAT: Mr. Pye, is it your general feeling that the pollution problems in Tillamook Bay are increasing, decreasing or staying about the same? You think it is worse than it was twenty years ago or thirty years ago?

MR. PYE: Well, I think it was worse than it was twenty or thirty years ago; but I think at the present time, it is on the decrease, right -- right now. I think they are working on it.

MR. MALLICOAT: That is through the efforts of the Water Resources Board, Pollution Authority and local interests, that things are generally improving?

MR. PYE: I think so. I would say yes.

MR. JENSEN: Several speakers have mentioned the problems of sedimentation, particularly of the Tillamook Bay area. I don't see anything in your seven or eight points here that touch on this upland watershed problem. Can you say anything further on that?

MR. PYE: Well, I am sure that I agreed with the other people as to the causes of sedimentation. The heavy logging that happened immediately or sometime after the large Tillamook burn, when there was many miles of road built in there at the time -- lots of disturbing the terrain and that's what caused the -- I think the heavy siltation on the lower river. But of course, that now is being helped by -- the area is being reforested and there is not as much logging in the area at the present time, so I think the siltation has stopped a little. But the rivers are plugged now -- now, something has to be done to make them better.

(Document submitted by Archibald
Pye appended herewith as "Appendix
B-1".)

MR. POSTON: Thank you, Mr. Pye. We appreciate your attendance. I would like to call now on Alfred P. Jones of the Port of Toledo.

STATEMENT BY MR. ALFRED P. JONES

MR. JONES: Mr. Poston, panel, ladies and gentlemen: My name is Alfred Jones and I am appearing here today on behalf of the Port of Toledo as its president in response to an invitation from the United States Department of Interior to express our views on the subject of pollution and its control in our estuaries.

Specifically, I believe you are interested in what may be the best use of our estuaries and what system of management -- local, state and federal -- will best provide for conservation and development of Oregon's estuary resources.

The Port of Toledo, as you know, is a municipal corporation and political subdivision of the State of Oregon, having control of that part of the Yaquina Bay and River which falls within its boundaries. We are joined on the west by the Port of Newport who control the main part of the lower bay.

The Port of Toledo has been concerned for some time with pollution in the Yaquina River, and have taken various steps to eliminate pollution of various forms from the river.

We have spent thousands of dollars on cleaning debris from our river each year and have further passed an ordinance prohibiting any person from placing debris in the Yaquina River. Despite our efforts at public education, we have, on two occasions, enforced the provisions of that ordinance and we intend to continue enforcement of this and other ordinances which may become necessary to pass to prevent water pollution in the Yaquina. For your information, we are submitting with this statement a copy of our ordinance which has been quite adequate to this point to help prevent this type of debris pollution that we have been experiencing in the past years. I gave this ordinance to your Recorder.

In addition to this, the Port of Toledo was, through its commissioners, instrumental in the formation of a non-profit corporation of this state entitled "The Clean Rivers Association", in which we have attempted to involve people from all walks of business and community as members and through the association bring about a public awareness of the dangers of polluting our rivers and educate them in the ways in which pollution may be avoided. All participants of this venture will undoubtedly contribute financially to its promotion. And for your further information we do have members that belong to nearly all the industry, which is located on the Yaquina River.

In other words, we of the Port of Toledo feel that local control is best, and that agencies such as the Port of Toledo are adequately equipped to fight water pollution and actively manage the conservation and development of Oregon's coastal waters. When we say "local control", we mean the local port districts and the agencies of state government who have a direct concern for Oregon's water control and estuary system.

It is our firm belief that these agencies working together with the U. S. Army Corps of Engineers, when their participation is required for the improvement of such estuaries and on flood control projects, is the best method for determining the best uses of our estuaries and is the only fair system of management.

Thank you.

MR. POSTON: Are there any questions? Mr. Vlastelicia?

MR. VLASTELICIA: A little earlier, Bob Baker with the Port of Newport mentioned a plan based more or less on the principles of zoning for Yaquina Bay; and inasmuch as you are in this same basin or watershed and are speaking about something similar, is there any mechanism whereby both ports are working together to develop this plan -- a semi-basin type management plan?

MR. JONES: We have always cooperated with the Port of Newport and we have talked about this very thing, yes, this is true.

MR. POSTON: Further questions?

MR. MALLICOAT: Does your port maintain any staff -- any full-time staff working on somewhat all of your port problems?

MR. JONES: Part-time staff.

MR. MALLICOAT: Part-time staff?

MR. JONES: Part-time staff, right.

MR. POSTON: Thank you very much.

(Attachment to statement submitted
to the Reporter herewith appended
and marked as "Appendix C".)

Paul L. Coyne, of the Port of Siuslaw.

STATEMENT BY MR. PAUL L. COYNE

MR. COYNE: Mr. Poston, gentlemen, I really didn't intend on speaking. I turned in some written statements, but I wanted to comment on some of the subjects that were brought up regarding sand being deposited, wind-blown, into the rivers. The Roseboro Lumber Company made a study on the movement of free sand from an unstabilized sand dune, which was located about a quarter of a mile away from a protected area. This study was conducted during a twenty-four hour period, during a normal northwest seasonal period. The test area that the sand blew into was a strip of leveled and rocked ground, about a half a mile in length; and during the twenty-four hour time period, the wind blew at a velocity of fifteen to twenty miles per hour during only eight hours of the twenty-four hour period, after which the firm gathered all of the cumulated sand on this test strip and measured it. It was in excess of thirteen hundred cubic yards.

If we pro-rate this amount of wind-blown sand from unprotected sand dunes to an area such as the Siuslaw River, which I am the manager of, four miles of exposed river front sand dunes, you can imagine the amount of wind-blown sand that is deposited each year into our river.

We have had a cooperative venture with both the Bureau of Land Management, the Forest Service and the Lane County Agency for the stabilization of these sand dunes. We have on the average of approximately a hundred thousand dollars' maintenance for dredging purposes alone to remove this sand from our entrance. I think with proper stabilization of the exposed dunes along our river area, we could probably save oh, between forty to seventy-five thousand dollars annually of these dredging maintenance funds.

Recently, as the manager of Coos Bay mentioned, I spent last week back in Washington, D. C., testifying in behalf of our project, of which we were fortunately funded and will be -- they will start this July on the new entrance and channel dimensions of the Siuslaw River -- we took back with us a fresh Chinook Salmon. I just bring this point up because Mr. Jensen mentioned he is from the Maryland area in D. C. As we went over to Senator Morse's office to make this presentation, we rode in the elevator up to his floor. The elevator operator was pretty well dumbfounded. He didn't even punch the button. He looked at it and he says, "My God, you didn't catch that in the Potomac!" (Laughter) After which we made a tour of the area and I looked at the Potomac and I don't see how anything could live in this. But just to bring a point across, not only does the dredging that the Corps of Engineers maintain on our rivers to maintain navigation for our coastal streams -- they cause turbidities. There are some people that disagree with the dredging, but this is our way of life. We can't live on the recreational aspects of the sport fishermen, on the seasonal period. Our town would slowly die out. We have to maintain a multiple-purpose type of industries and a multiple-type of a stream. We have to cope and live with our industries, such as our commercial fishing, our recreation and our commerce.

Wind-blown sand does create us a problem, much more than our dredging problems.

Thank you.

MR. POSTON: Thank you, Mr. Coyne. And your statement that you submitted will be in the record.

(Attachment to statement submitted to the Reporter herewith appended and marked as "Appendix D".)

I have one more name here -- I have two more names -- Maradel Gale, speaking for Beaches Forever, Inc.

STATEMENT BY MARADEL GALE

MISS GALE: Mr. Chairman, I am Maradel Gale. I reside in Eugene, Oregon, and I appear today officially representing Beaches Forever, Inc., a non-profit Oregon corporation, organized for the purpose of advancing, by initiative petition, an amendment to the Oregon Constitution, which would guarantee to the public forever, the use and enjoyment of the coastal beaches of Oregon.

We welcome your invitation to present this statement, not because we claim expertise on the estuarine matters which are your foremost concern, but because we believe we represent the sentiment of the vast majority of Oregonians who value our precious beach and all associated areas as a prime recreational resource.

We hope that what evidence we can present about public concern for the beaches will be interpreted by you to apply with equal force to the need to protect the bays and estuaries of the Oregon Coast as scenic, pollution-free areas, managed primarily for recreational potential. While we recognize that many such areas must accommodate other legitimate commercial enterprises, we hope that such development will always adhere to standards which will make them compatible with scenic and recreational enjoyment.

First, I should like to instance just a few examples of the overwhelming public concern the people of Oregon have for their beach lands.

(1) Eight thousand copies of our initiative petition, a copy of which is appended to the report I gave to your Recorder, were printed last weekend, and 5500 were mailed to those who had requested copies and to members of three of our sponsoring organizations. In the ensuing three days since this weekend, we have filled requests for an additional two thousand petitions, and are reprinting to meet the continuing demand.

(2) Our initiative, in the short time since it was filed with the state, has been endorsed by the following conservation and outdoor organizations: The Oregon Division of the Isaak Walton League, The Mazamas, the Pacific Northwest Chapter of the Sierra Club, Oregon chapters of the Association of Northwest Steelheaders, Oregon Wildlife Federation, Multnomah Anglers and Hunters, Eugene Natural History Society, Cottage Grove-Eugene Sportsmen Club, Springfield-Eugene-Cottage Grove chapter of the IWA, Local 3-246, AFL-CIO, and many others.

(3) Last fall many of the individuals who are now active in Beaches Forever were concerned about the possibility that a relocation of Highway 101 might be constructed on one of the publicly owned ocean sandspits and beaches in the vicinity of Pacific City. On very short notice, an advisory petition was prepared, requesting that the State Highway Commission find an alternate route. Within four weeks, a few hundred people were able to obtain more than 13,000 signatures on this petition.

(4) At the same time, we commissioned a public opinion survey which found that of those voters with an opinion which was 68.5%, 86.9% preferred a foothills routing, while only 13.1% were in favor of using beach lands for highway location. A copy of the survey is also appended for your information.

I believe that some of the speakers here today have gone over the background on the public's concern for the beach lands, since we became a state in 1859. We have used this shoreline almost without interference and it has been kept relatively free of commercial development as a recreational area. The public has demonstrated over the years, a fierce loyalty to the idea that the beaches should be kept for public use, that commercial or private development should not permit or encourage the exclusion of the people from the use of the beach.

In 1913, the shore between low and high tide was designated as a public highway for the entire length of the state, excepting only a few miles which had been deeded away in the previous century. The "public highway" classification was refined to "recreation area" by an act of a recent legislature.

With this background of public use, the people last year became alarmed to realize that the "recreation area" designation might neither protect the public right to use the dry sands areas upland from the ordinary high tide line; nor prevent the construction of fences and barricades, highways, elaborately constructed commercial developments on the dry sand area below the natural vegetation line.

In response to their concern, the 1967 Legislature passed a much-publicized bill, which has become Chapter 601 of the Oregon Laws of 1967. However, commercial encroachment along the coast line continues -- in some places impeded by litigation, in other places clearly unrestricted by the 1967 law.

In turn, it was in response to the inadequacy of the 1967 law, that a group of conservationists and leaders in outdoor clubs decided to initiate an amendment to the Oregon Constitution, and we incorporated Beaches Forever, Inc. as the campaign organization responsible for spearheading the drive for 48,000 valid signatures of Oregon voters before July 4th of this year.

In brief, our initiative would provide that the state quiet title to all ocean beach lands or interests therein now in public ownership, and acquire desirable portions up to the natural vegetation line that are not now in public ownership. It also provides funds in order that the state may acquire additional accesses to the beach. In addition, it prohibits the construction of highways on ocean beach lands and publicly owned ocean sand spits, and directs that the state police the beaches out of its operating funds -- enforcing laws and regulations regarding unauthorized motor vehicle operation and littering.

If we may provide additional help or information, we would be glad to. Thank you very much for asking us to come.

MR. POSTON: Any questions?

MR. MALLICOAT: Miss Gale, would your amendment have any direct effect upon bays and estuaries?

MISS GALE: Not directly as it stands. The wording in the amendment concerns those lands lying directly along the ocean shore.

MR. POSTON: Would there be provision in your -- were you through? I'm sorry.

MR. MALLICOAT: Yes.

MR. POSTON: Would there be provision in your law for the cleanup of these beaches? As we have more and more people, we are going to have more and more trash. We are going to have more and more litter and how are we going to take care of that? Would your law cover that point?

MISS GALE: One of the sections of our constitutional amendments specifically directs the state to provide funds for a campaign against littering and for -- this is contingent also with this policing of unauthorized motor vehicles. These two things are closely combined.

MR. POSTON: That's very good.

MISS GALE: Thank you.

MR. POSTON: Thank you very much.

(Attachment to statement submitted
to the Reporter herewith appended
and marked as "Appendix E".)

I would like now to call on Dr. Hedgpeth, who probably will benefit by all he has heard and give some real guidance here.

STATEMENT BY DR. JOEL W. HEDGPETH

DR. HEDGPETH: Mr. Poston, ladies and gentlemen -- I am not sure that I can -- well, you know, I once found myself summarizing another hearing in Jekyll Island, trying to make sense of everything that was said for, in that case, a week. A great many divergent viewpoints have been expressed here and I would like to make a few comments, more or less from a national viewpoint rather than a local viewpoint, although, I suppose I will drift into local situations.

In my opinion, one of the uses implicit in the multiple-use concept has not been clearly stated. It was at a hearing here previously -- the hearing on water standards and that is that some branches of industry feel that one of the beneficial uses of rivers and estuaries is that they are sewers; and I am glad that this wasn't mentioned, at least favorably, because I consider that tantamount to a request to place a row of privies down your front street. And I certainly hope that this aspect of uses of estuaries is hit firmly on the head. It may be necessary at times, unfortunately, we do things we feel we shouldn't be doing, that we shouldn't have them justified.

There have been quite a few statements in favor of local control and most of the people said, "We will run our affairs but we want your money to show us how it should be done". This is all fine. The American Fisheries Society statement touched on one little point that I think has great bearing in estuaries and we tend to forget it, and this is the role of the Corps of Engineers. It constitutes a joker in the deck. The Corps, as we all know, is empowered to consider things done in our harbors and navigable waters solely on the basis of navigation. Lately, this was amended to involve intervention, when necessary, by another federal agency, which had interests, namely -- such as the Fish and Wildlife Service; and that is, that this situation with the Corps tends to be jockeyed about by interested parties, so that the local people -- some of them may be interested in a certain development -- and this may well include local boards, who will say, "Well, we can't do anything until the Corps decides whether or not it affects navigation". And then the Corps may very well decide it doesn't affect navigation and the body says, "See if we can go ahead and do this". The Corps says, "Fine". So I think, from the federal level, the Corps of Engineers should have a much more adequate directive to cope with this thing.

I have been at hearings where people have stayed until two o'clock and the gentlemen of the Corps of Engineers have patiently listened to good old-fashioned town meetings and have had to say at the end that "We are glad we allowed you to have your say, but we can only discuss -- we can only evaluate this in terms of affecting navigation", and quite often, there is no real effect on navigation, but there may be terrific effects elsewhere.

I trust it's understood I am not taking my hatchet to the Corps of Engineers for their good works and all. I just feel that this matter of jurisdiction, the way some of these things are evaluated, should be reviewed at the federal level.

There is one value and use that has not been recognized except implicitly in Dr. Rudy's statement. It is especially true, as he has pointed out in Coos Bay, it's true here in Yaquina Bay and it's true in many other bays all over North America, and this is the use of some estuaries, anyhow, for scientific and educational purposes. This means that the water quality standards for an area with a marine laboratory should be much higher than they are for, shall we say, ordinary estuaries. The fact that the demands for marine laboratories -- the waters, they can be sure of in the long run, are more strict and severe than for raising oysters and if a bay is allowed to deteriorate badly, why, the laboratory is in a bad way. It's put to considerable expense. The only estimate I have heard recently for us to go to sea to collect and bring in sea water -- we now bring our water in at the dock, could be in the order of a hundred thousand dollars to begin with -- it could be considerably more.

And I might point out that as far as I know, there have been very few marine laboratories that have abandoned or discontinued after they were once started. And you can see abandoned mills, mines and refineries all over the map. It may be that the payrolls are not quite as large, but in the long pull, might often, unexpected dividends result from laboratories, as everybody who has seen Wood's Hoe (phonetic) can realize.

One laboratory is being relocated, I believe -- I haven't heard recently. This is in Scotland, because it was a little too near to a scene of anticipated thermal enrichment. (Laughter)

At the Jekyll Island conference, we tried to -- we discussed the advisability of recommending at least one estuary be set aside as a national estuary, for science and education; but as been said over and over, all estuaries are different, so we couldn't agree which estuary should be a national estuary, so that discussion really didn't get very far. So we probably need quite a few national estuaries, really -- they are a national resource.

I am glad to see that everybody is for research. That means that we will have more to do and we hope we will have more money to do it with.

Thank you, gentlemen.

MR. POSTON: Dr. Hedgpeth, I have heard you speak about the potential danger of discharging the large quantities of waste waters from the great central valley of California offshore in California and how soon those waters would be up here and I think the record would be enriched if you would mention that.

DR. HEDGPETH: Well, this is very interesting. You say you heard me say something about this?

MR. POSTON: You and I had a conversation. You have perhaps forgotten it.

DR. HEDGPETH: Well, where was it at, I wonder? (Laughter) I forget now the exact figure. It is in the order of two or three weeks or a month. It is about the time that it takes drift bottles to get from the vicinity of about a day ahead to here and that drift bottle measurement, of course, is uncertain, because it's picked up in Newport, I think, about three weeks after release. It might have gotten up here in two weeks and been around on the beach a week before somebody saw it; or it might have drifted back and forth in the water. It doesn't make a direct straight line. But we do know that many marine organisms, larvae thereof, move northward with the current in the winter months.

MR. POSTON: Any further questions?

MR. MALLICOAT: Relating only to my line of questioning of some of the other witnesses, this facility here is relatively recently established. I am wondering, in consideration of its location here, was there data assembled as to the pollution direction -- is it on the increase, on the decrease or at whatever -- (interrupted)

DR. HEDGPETH: Well, this is a local situation which I am not completely informed as to what happened before we came here. The Oregon State University has had an oyster laboratory here for many years and Georgia Pacific was persuaded to move its major effluent discharge out to sea. It's not in the bay, not out at Toledo. Occasionally, I am sure some bit gets washed in. How much, I don't know. I might point out that the federal water pollution people are now maintaining a monitoring program in Yaquina Bay, which Mr. Clothier (phonetic) could comment on, I suppose, but since he works for you people -- well, that is another problem. So they have moved that out there and what its actual effects are, I can't say. Occasionally, some of that foam that builds up in the top gets washed around for some distance and that is quite on the surface of the water. This is an intermittent and -- (interrupted)

MR. MALLICOAT: Does this wash in from the outfall that is at sea now, is that what it does?

DR. HEDGPETH: Well, it appears to. Since some gentlemen from Georgia Pacific are here, I will have to say that I have not seen a separate particle move all the way from the outfall and back into the channel, you know, but I have seen some stuff which looks to me as if that's where it came from. It is coming in from the outside.

MR. POSTON: Well, thank you very much, Doctor, and again thank you for letting us use your very fine facility here.

DR. HEDGPETH: Well, all I did was tell you that the date was open, as I remember now.

MR. POSTON: Now, I am going to call on who I think is going to be our anchorman, Ron Phillips, Newport Chamber of

Commerce.

STATEMENT BY MR. RON PHILLIPS

MR. PHILLIPS: My name is Ron Phillips. I am president of the Newport Chamber of Commerce and gentlemen, let me belatedly welcome you to our community.

I have heard much of your testimony today. I want to say I appreciate having you here with us and I want to say I approve wholeheartedly of what you are doing in trying to bring to light the problems in estuarine pollution. I won't say that our community or I personally, am an expert in that, because frankly, I don't think we have too much of it here and I am very happy with that.

I would like to say that I think the State of Oregon, its state government is in the forefront of the national life, in attempting to preserve and to better the environment we already have. I think our State Sanitary Authority does a very good job. We here are not total strangers to the problems of pollution -- not necessarily estuarine pollution. When our big Georgia Pacific Paper Mill moved in, they avoided pollution in our Yaquina River by bringing a pipeline directly from the plant, some seven miles and putting it in the ocean, which caused an air pollution problem. We had a pretty tremendous problem there and one of the great needs in pollution today, I think, was brought out right there. Georgia Pacific wanted to do the right thing and the Oregon State Sanitary Authority wanted to do the right thing and I will assure you the local agencies wanted to do the right thing. It imperilled our tourist industry. It caused no end of headaches.

The question, "What's the right thing?" Well, you could get as many answers as you talked to people, because it was something pretty well new. Ultimately, an answer was found and I think Georgia Pacific originated that answer. Without my getting into it technically -- I am not qualified -- it was aeration at the plant site, through various means and changes there, and it ended the problem here at Newport.

The reason I cite this particular instance is because if an answer had been developed through research before this, it would have saved us an agonizing few years in our community. Now, our Chamber of Commerce, I think, led the way in this community toward providing here, a five hundred thousand dollar sewage disposal plant. Frankly, no one -- and I see some sanitary authority people that were here at that time -- could actually show any great damage being done by the raw sewer outfall across the beach into the ocean. But when you are as proud of your beaches as we are, the thought is repugnant, whether there is any damage or not. Our City Council at one time actually voted against placing a bond issue on the ballot for the plant. Our Chamber of Commerce appealed to them to reverse that. We went out and we like to think that we helped persuade our community we needed it. We are certainly proud of that sewage disposal plant.

Mr. Jones of the Port of Toledo mentioned Yaquina Clean River Association here earlier. Our Chamber of Commerce was a participant in that, along with our Port of Newport -- Cities of Toledo and Newport, County of Lincoln, and we have a sort of a technical advisor, the Marine Science Center here. Mr. Jones was modest. They got very tough with a couple of people up in the upper harbor, did a good job there. The log dumps in the harbor are going away. There is only a fraction of what there was once here. Our mills are going to a dry-land type storage. Debris -- just careless debris that littered the upper reaches of the river are disappearing rather rapidly today and are generally -- the private industries themselves, are working very hard to keep this river clean.

We did jump our fish processing plants here, although they use most of their products -- some things, like shrimp shells and some crab shells and things, do go overboard and we jump them about that. At the local level, you are allowed to. They are friends too.

To the best of our knowledge, frankly, probably they are enriching the environment rather than polluting it. I do know the fishing's terrific off the docks. We have asked our technicians to study this rathe carefully to tell us whether this is pollution or not and they aren't going to stick their neck out. Life seems to be all right there. In fact, it seems to be very rich in that area. Our Oregon State Sanitary Authority did issue them a permit. They are being monitored, but gentlemen, I think all they're doing is making fishing a little better.

On Yaquina Bay last year, our Oregon State Game Commission says, was the most popular salmon fishing port in Oregon. Our Yaquina Bay State Park, the State Parks Department has said year after year, records one and a quarter visitations annually. It makes it the most popular state park in Oregon. Our recreation assets, our tourist assets are one of the great foundations of our economy. So are our rivers, if our local people have anything to say about it, have been getting better and it is going to get even better, but could I caution you on one thing? We can't turn America back to the pioneer days, not if we are going to leave two hundred million people here. So I think our task in these years ahead is to apply the great technological knowledge that we are developing as a civilization to tell us how to better develop these.

For example, we have opportunities for industrial development. Despoliation of one tide flat in the Yaquina Bay might be the end of an entire life cycle of creatures that are very valuable, that we don't even know about. Our answer is this: We don't want to destroy what we have but where do we put our industries? We do want jobs for the children coming forth in this area, we have to have those too. Nobody here today has been for pollution but let somebody offer to bring in a plant with five hundred jobs in it and find out how many supporters the plant has. So it takes twenty-five to thirty acres of tide flat. We find a very powerful wave going for the plant. We have got to get ahead and we have got to plan. We are -- our Ports of Toledo and Newport, Cities of Newport, Toledo, County of Lincoln, Central Lincoln PUD, form our Yaquina Bay area planning council for this entire basin. Their purpose, to provide water services and sewer services to the entire basin in an integrated program. This is coming.

I feel that our Oregon State Sanitary Authority and our local agencies can well handle the problem with one exception they need answers to work with and every bit of the research, help, that you can give in this area, we need. In fact, may I volunteer our community, our bay, as a pilot project for a study, creating a total inventory of an estuarine environment and total planning on how to best utilize it. You will have the cooperation of our area.

Thank you, gentlemen.

MR. JENSEN: I'm curious. I wonder if an economic study a study has been made of the economic impact of this facility here at Newport, do you know?

MR. PHILLIPS: Well, I can tell you are from out of state. Everybody around here knows what that impact is. It's tremendous. It's an industry to us and it is a big industry and it is an important industry. It places in our community life, a very high grade of talented, educated people. It's a very important thing to us.

MR. JENSEN: The Federal Reserve Bank in Boston reported a few months ago, on a study that was made up at the State of Maine, I believe, of the economic impact of a small college and they found, I think, to everyone's surprise, that this college was much more valuable to the town than the factory that they have been knocking themselves out trying to get. Dr. Hedgpeth, I think, suggested too here, that this is a pretty valuable community asset.

MR. PHILLIPS: No, there would be no debate on that.

MR. JENSEN: But there has been no economic study made of it -- no quantitative study of the impact?

MR. PHILLIPS: Dr. Hedgpeth, we are too new to have gotten that far yet, aren't we?

DR. HEDGPETH: I think so, in three years.

MR. JENSEN: We have quite a number of economic studies going around in the country on estuarine values. We haven't included this in any of them anywhere.

MR. PHILLIPS: Any other questions, gentlemen? (No response)

MR. POSTON: Thank you, Mr. Phillips. Now, have I overlooked anyone who filled out a blank -- a registration, and said they wanted to be heard? (No response)

I have written statements here from four people. I am not going to read the statements but I will tell you who they are and you can look for the statement in the transcript, if you want it. The first one we have is from Carleton Whitehead, assistant to the president of Reed College and we have G. Frank Gwilliam of Reed College. We have a message from Kay Bisbee of Waldport and one from Christy Brindle of Portland. Those will all be in the record.

MR. POSTON: I wonder if any of the panel has anything they would like to say at this time? Mr. Mallicoat?

MISS JOHNSON: May I ask, what about the one I turned in for Clatsop County Soil and Water Conservation District?

MR. POSTON: That is another one that I have just learned of now. It will be in the record. Thank you very much for calling my attention to my omission.

(Statements heretofore mentioned are herewith copied into the record as follows:)

REED COLLEGE - Portland, Oregon 97202

May 7, 1968

Mr. R. F. Poston
Regional Director, FWPCA
570 Pittock Block
Portland, Oregon 97205

Dear Mr. Poston:

I would like to express to you and your organization my deep concern, as a conservationist, with the preservation of the estuaries of the Pacific Northwest Coast. While I am confident that you are aware of their significance to science, I want to state that they are also a vital and growing dimension of recreational use.

The estuaries provide an opportunity for a variety of recreational activities for people of all ages. These range from clam digging, through fishing, to boating. The use of estuaries for recreation is growing rapidly, and any informed appraisal of future growth demonstrates that they will become a major element of coastal recreational activity.

This makes the preservation of the estuaries in their natural state of particular importance. Contamination from any of a variety of sources, whether pollution, real estate development, or other foreign activities, would quickly destroy their recreational potential.

I hope that you will undertake a vigorous program in this area, and I wish you every success.

I enclose a letter from a member of our faculty expressing his concern, as a scientist, with the preservation of estuaries.

Sincerely,

/s/ Carleton Whitehead

/t/ Carleton Whitehead

Assistant to the President

CW:kl

REED COLLEGE - Portland, Oregon 97202

May 7, 1968

Mr. R. F. Poston
Regional Director, FWPCA
570 Pittock Block
Portland, Oregon 97205

Dear Mr. Poston:

Estuaries are regions where the fresh water and marine environments meet, intermingle, and provide a rich variety of habitats that support a unique assemblage of organisms that are found neither in fresh water nor in a fully marine situation. The fact that daily tidal changes and longer cyclic changes in fresh water outflow make this an ever changing environment means that evolutionary selective pressures are severe, and those organisms that survive in this environment must have physiological and/or behavioral mechanisms that permit such survival. The region, then, provides a natural laboratory where these mechanisms may be observed. It also provides experimental material in the form of organisms which permit the biologist to examine in detail how it is that organisms are able to withstand these ever changing conditions. This, in turn, tells us a great deal about the capabilities of living material and "solutions" that evolution is able to provide to the ever present problem of survival. Unfortunately, such areas are limited so it is of extreme importance that they be protected.

Estuaries are peculiarly susceptible to pollution because they often include embayments which provide natural settling basins for pollutants, which are then very difficult to disperse. The fact that estuaries include a river component, and that people and industries tend to gravitate to rivers means that a lot of pollution can be focussed, ultimately, at the point the river enters the sea -- i.e., the estuary.

Sincerely,

/s/ Frank Gwilliam

/t/ G. Frank Gwilliam

Associate Professor of Biology

Waldport, Oregon

April 28, 1968

Mr. John Vlastelicia, Regional Coordinator
National Estuarine Pollution Study
Federal Water Pollution Control Administration
570 Pittock Block
Portland, Oregon 97205

Dear Mr. Vlastelicia:

Because of the conflict of the working day with the time of the public meeting on "Impacts of Pollution on Oregon's Coastal Waters" I would like my feeling made a part of the hearing.

I feel the urgency of some impartial, knowledgeable group examining the erosion, the intrusion of industry into the outlands, whose ecology is not fully understood yet, to determine the results of such intrusion. Will it be compatible to the migrating bird life? To the life beneath the water? Who is capable of putting a price on the extinction of a species?

The group that so decides must be buffered away from shortsighted transient gains and the people who would so benefit; unfortunately the clam isn't very verbal! So some individual must be so authorized to consider them. Sometimes there may have to be a cooling off period, say a decade, to determine the feelings of that generation, who will have to weigh the emerging values. In the meantime someone must be able to say "No".

All I'm hoping is that for years on end, man can see a migrating egret, catch a fish, instead of a tire tube, see a clam hole instead of a pile of sewer effluent.

Sincerely yours,

/s/ Kay Bisbee

/t/ Kay Bisbee,

* Rt. East Box 255

Waldport, Oregon 97394

Life member Mazama, Audubon member

5728 N. E. 35th Ave.

Portland 97211 Ore.

May 5, 1968

Mr. John Vlastelicia
Regional Coordinator
Federal Water Pollution Control
570 Pittock Block
Portland, Oregon 97205

Dear Mr. Vlastelicia:

As a member of the Oregon Audubon Society, The Native Plant Society, Omsi and The Forest Grove Camera Club, I am interested in the fate of the Oregon estuaries.

I take many trips to the beach and visit the many beautiful bays along the coast to watch and photograph all phases of nature. I use these observations and slides for nature programs in schools.

We are using up our natural resources at an alarming rate and the rest is being polluted by waste from many sources.

I feel that it is vital that we do all we can to prevent the loss of any more wildlife and more study is needed for the pollution problem and its effect on the decline of certain species of birds and marine plants and animals.

We are blessed with a beautiful state and every effort should be made to protect that beauty so that it may be shared with the world.

Thank you for letting me make this statement a part of the hearing on May 9, 1968 at Newport, Oregon.

Thank you.

/s/ Christy Brindle (Mrs. R. Brindle)

CLATSOP

SOIL AND WATER CONSERVATION DISTRICT

Clatsop County, Oregon

May 9, 1968

Mr. John Vlastelicia
Regional Coordinator, National Estuarine Pollution Study
Federal Water Pollution Control Administration
570 Pittock Block
Portland, Oregon 97205

Dear Mr. Vlastelicia:

We wish to submit the following list of some of the causes of water pollution and subsequent damage to the estuaries, tidal waters, shores and adjacent lands.

Extensive clear-cut logging causes abnormal run-offs of water into the lowlands during heavy rains. This carries much debris and silt into the streams and eventually into the bay and estuaries. The larger logging operators are now using both insecticides and fertilizers on their tree farms. These are usually applied by aerial spraying. The residue from these applications undoubtedly are added to the run-off waters and also enter our rivers, streams, etc.

In an area of concentrated population along the banks of a river or stream, natural tidelands have been filled for building sites, roadways, bridge approaches, highways, etc. without compensating dredging of the channel to allow the natural inflow and outflow of water. This has caused water to be retained on land further inland, causing prolonged flooding and harmful effects to other property. All rivers and streams so affected should be cleaned and dredged and kept at a normal level of flow. This would reduce the amount of silt being washed from the uplands.

Many cities now have chlorinated water. Perhaps this water is sufficiently treated before being discharged into the receiving body of water, so that there is no ill effect on fish or marine life. However, the raw spray insecticides and fertilizers used on the lands might have a harmful effect. And of course, and garbage or untreated sewage entering our waters is intolerable. This includes discharges from boats and vessels on our oceans, bays, lakes and rivers.

The temperature of our waters has a great influence on our sea life. Still waters, caused by dams or other obstacles, are harmful. And now, atomic power plants with their thermal heat, need much study and foresight in the interest of effects on all marine life.

We realize these are but few of the problems facing us if we are to keep our waters clean. And the solutions will take much time and work and money, but it is a very vital issue which must be controlled.

Sincerely yours,
Clatsop County Soil & Water Conservation District
/s/ Elinor Johnson
Supervisor

MR. POSTON: I would like to repeat again that the record will be held open for fifteen days for additional statements of people that would like to be on the record. The transcript will be available upon request and I want to thank all the participants who came today, because I personally have gained some knowledge that I didn't have before and I have got a few things that I am going home and do.

I am not going to wait for any legislation or for a completion of study and I would make the appeal to those of you that had a good message here, not to wait until somebody else does the job. It's up to you, in your local communities and your state organizations or wherever you are, to keep pushing on this thing, because I don't think that there was a sour note in this whole hearing today, where anyone said that we shouldn't do something. But I would appeal to you, don't wait for me to do it or Mr. Mallicoat to do it or Mr. Jensen or Mr. Vlastelicia. We need everyone working in whatever way that they can, to see that this thing is done and the time is short.

And I particularly want to thank the State of Oregon, not only for putting on this meeting today, but for the document that they are preparing on the inventory of what is going on in the estuaries of Oregon; and for their contribution of their official views of what the management program should be. And I think with that, we will call the meeting adjourned.

Thank you very much.

(Whereupon, at 3:55 o'clock p. m., the meeting was adjourned.)

PART II

WRITTEN STATEMENTS

COLUMBIA RIVER TOWBOAT ASSOCIATION

1200 JACKSON TOWER
PORTLAND, OREGON 97205
TELEPHONE 228-4559

May 20, 1968

MEMBERS
ATLAS TUG SERVICE
BRUSCO TOWBOAT CO.
COLUMBIA PACIFIC TOWING
DIESEL TOWING CO
KNAPPTON TOWBOAT CO.
THE MIRENE CO.
PACIFIC INLAND NAVIGATION CO.
RAMONA TOWBOAT CO., INC.
SHAVER TRANSPORTATION CO.
SHEPARD TOWING CO.
SMITH TUG & BARGE CO.
TIDEWATER BARGE LINES, INC.
WESTERN TRANSPORTATION CO.
WILLAMETTE-WESTERN CORPORATION

Mr. R. F. Poston
Federal Water Pollution Control Administration
Pittock Block
Portland, Oregon

Dear Mr. Poston:

The Columbia River Towboat Association is an organization consisting of various tugboat companies operating on the Willamette and Columbia rivers.

This Association and its members are well aware that water pollution is a national problem, but we do feel that the various industries and municipalities are the main factors causing water pollution. We believe that pollution from navigation and commerce is of a very minor nature. However, this Association and its members are conducting research for even better anti-pollution controls in relation to tugs and barges and are working with the American Waterways Operators in this endeavor.

We would appreciate being kept advised as to any further hearings in this locality and being placed on your mailing list.

Yours truly,

COLUMBIA RIVER TOWBOAT ASSOCIATION

By
Acting Secretary

JRG:lp

cc: Mr. George Jackson
Mr. Peter Brix

Newport, Oregon
May 9, 1968

Eugene T. Jensen, Chief
Office of Estuarine Studies
Division of Technical Services, FWPCA
U. S. Department of Interior
633 Indiana Ave. N.W. Washington, D.C.

Dear Sir:

I believe the Federal Government should share in the enforcement of anti-pollution laws concerning our estuaries and not in just furnishing funds and technical information.

Use of potential payroll promises to pit one state against another for plant site selection by easing pollution control isn't compatible with better liveability.

In December 1957 a Kraft paper mill began operating in Toledo piping its effluent 7 miles to dump it on the beach in the middle of Newport. In 1960 a small group of residents, myself included, journeyed to Portland with petitions bearing over 400 signatures to object to the State Sanitary Authority of this pollution of our beach waters which was in violation of Oregon law. The Chairman of the Sanitary Authority voiced his displeasure at the Newport Chamber of Commerce for its pressuring the Authority during the pipe installation because the Chamber was so eager for the payroll they couldn't see beyond their collective noses to have it installed properly.

It wasn't till after the Clean Water Act was passed in 1964, and we got the Marine Science Center and the U.S. Health Department located here that the paper mill management decided to extend the effluent pipe 3000 ft. farther seaward in 1965 to end this public nuisance and the pollution of our beach.

Sincerely,

Alwyn F. Tischer

Alwyn F. Tischer
444 S.W. Euilo St.
Newport, Oregon

I believe the chairman of the panel today told us we had 15 days to have our letters included in the transcript of the meeting so this should beat the deadline. Thank you.

Oregon Wildlife Federation
OREGON'S NATIONAL WILDLIFE AFFILIATE
P. O. BOX ____ PORTLAND, OREGON ____

Statement of The Oregon Wildlife Federation
by
George R. K. Moorhead, Chairman
Air and Water Purification Committee.

The Oregon Wildlife Federation has long been concerned with the depletion of our natural resources. Much of our effort, of necessity, has been directed toward the repair of damage that has already occured. We are vitally concenned with preventing any further depletion.

We thoroughly approve the projected "Estuarian Studies" by the division of technical services; and are convinced that these studies will receive the full co-operation of state and local agencies, as well as the support of all Oregon conservationists.

We are concerned with changes that could occur during the time required for making these studies, and for implementing recommendations. Additional dredging, filling, pollution of tributary streams, and other factors could adversely affect the estuarian ecology during this period. We feel that an effort to minimize any changes in present estuarian conditions should be incorporated in; or coordinated with the study plans.

George R. K. Moorhead
George R. K. Moorhead, Chairman
Air and Water Purification Committee
Oregon Wildlife Federation

APPENDICES

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CRISIS IN OREGON ESTUARIES

Prepared by Estuary Conservation and Development Committee
Oregon Chapter, American Fisheries Society
December, 1967

APPENDIX A.
BILL'S RECORDING SERVICE

Estuary: n. (L. aestuarium, fr. aestus swell of the sea, tide) Where the tide ebbs and flows and fresh water of the land meet the salt waters of the sea. A tidal embayment.

RECOMMENDATIONS

On the basis of data presented in this report and study of the management policies and physical, social and political problems associated with Oregon estuaries we recommend the following:

1. That an immediate (within one year) inventory be made, by local, state and federal agencies involved, of all Oregon estuaries relating to their present and potential uses and values--from the natural resources, commercial-industrial and public points of view.

2. From this inventory the objectives of estuarine management in Oregon may be identified and agreed upon.

3. A halt must be established over the alterations which are occurring and those which are proposed, until an overall plan of use is adopted for each estuary.

4. Jurisdiction for management of Oregon's estuaries must be clarified. Areas of overlapping must be identified.

5. Where data is insufficient for rational policy and management decisions, we propose that research be undertaken to provide needed information.

6. Water quality standards, which currently blanket all estuaries, should be studied to determine whether separate standards might be warranted for each estuary.

7. Educational programs, on the values of Oregon estuaries, aimed at all segments of Oregon citizenry from kindergarten to the golden age, are essential to develop public understanding and appreciation.

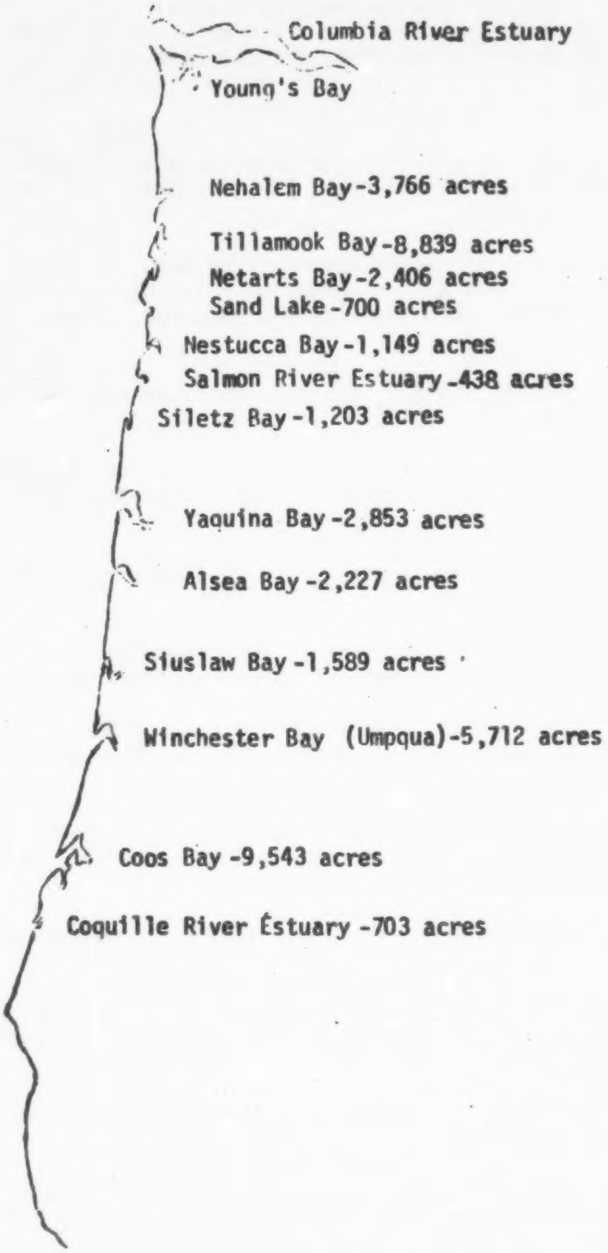
8. Studies should be implemented on rare or endangered species of shellfish in Oregon estuaries.

9. A study is suggested to determine if outdated Corps of Engineers "pier lines" can be changed to be more compatible with biological and recreational uses of estuaries.

10. Management of Oregon estuaries should be vested in the state--assuming that the State accepts this responsibility.

11. The state of Oregon should consider the establishment of "State" estuarine areas similar to the program of National areas suggested in H.R. 25.

OREGON ESTUARIES


Columbia River Estuary
Young's Bay
Nehalem Bay-3,766 acres
Tillamook Bay-8,839 acres
Netarts Bay-2,406 acres
Sand Lake-700 acres
Nestucca Bay-1,149 acres
Salmon River Estuary-438 acres
Siletz Bay-1,203 acres
Yaquina Bay-2,853 acres
Alsea Bay-2,227 acres
Siuslaw Bay-1,589 acres
Winchester Bay (Umpqua)-5,712 acres
Coos Bay-9,543 acres
Coquille River Estuary-703 acres

INTRODUCTORY SUMMARY

Estuaries, where the tide ebbs and flows and fresh waters of the land meet the salt waters of the sea are a gray edge--neither black nor white--dynamic and always changing. Call them marine bays, if you like. The place where you and I dig clams--or launch a boat for fishing the saltchuck--or watch the lumber freighters load for trips to the far away--or hunt black brant in the wind and rain of late fall--or dump domestic and industrial wastes--or where little girls find seashells. Estuaries are outdoor laboratories where professors teach their students about worms--where young fish and shellfish get a start in life--or pass through on the way to salt water pastures--and much more.

Oregon's marine bays are vulnerable rare jewels. All 14 (or so) of them could be placed comfortably within Willapa Bay, Washington. Ours total just a shade over 41 thousand acres (plus the Columbia river interstate estuary) less than a tenth of one percent of Oregon. Because of scarcity, each acre is more valuable than a similar acre in a state with millions of acres of estuaries.

An increasing intensity of use of Oregon estuaries--and overlapping jurisdiction for estuary management in Oregon--is creating a crisis.

The loss of an acre at a time--here and there-- now and then, is the estuarial death knell. But proper planning now can safeguard the natural resource values and provide for many types of industrial and commercial development.

Material in this report was developed from information provided by resource management agencies in Oregon and other sources and organized by the Estuary Conservation and Development Committee, Oregon Chapter, American Fisheries Society. The Society has served the field of fisheries since 1870 and has been increasingly concerned over misuse and abuse of the estuarine resource in the United States.

The conclusions and recommendations, reported herein, are the direct responsibility of the Committee. The report is obviously constructed from the biological point of view. This does not mean that we have no appreciation for the needs of industrial development. Some industries, however, will not mix with natural values and a choice of preferred use will have to be made. We object to making this choice without considering the renewable natural resources.

As stated aptly in Fish and Man, p.1 "Critical decisions continually must be made whenever progress conflicts with conservation of natural resources. The answer must be clearly in favor of resources when personal greed is the motive for a disruptive project. The solution is more difficult when public benefit is the purpose."

A NATIONAL ISSUE

The estuary question has become a matter for national concern in the past few years. Bills before the Congress and proclamations from a dozen august and learned bodies are in the news. Growing numbers of individuals agree that something must be done. Perhaps this is a good way to get nothing done.

Let's take a look at some of the values and problems in the estuaries of Oregon.

OREGON COASTAL SPORT AND COMMERCIAL FISHERIES

A wide variety of angling opportunities exist in estuaries and offshore. The value of estuaries to fish life requirements cannot be over emphasized. Continuation of sport and commercial angling opportunities offshore and in the bays will depend on estuary management. Lint slough experiments, by the Oregon Game Commission, give optimistic clues to the future values of fish farming of salmonids in estuaries. The annual release of millions of coho salmon and steelhead fingerlings in tributaries of the estuaries has increased the economic base of Oregon by returns to the commercial and sport fishery.

Licensed sport anglers in Oregon are expected to approach 800 thousand by 1973 when angler trips will perhaps exceed six million annually.

The success of Oregon's salmon industry--sport and commercial--is largely dependent on the water quality and food production in estuaries. Critical phases of salmon and steelhead life histories occur within these bays. While recent advances in hatchery techniques have increased salmon production of certain races to near record highs, the dependency of these species on the estuary cannot be overlooked. Similarly, other commercially and recreationally important fishes require estuarine nurture for survival to maturity. Shad and striped bass, for example, spawn in estuaries. Herring spawn in our bays; their progeny provides food for game and commercial species.

SHELLFISHERIES

A prime value of Oregon estuaries is the production of clams, oysters and crabs for recreational and commercial uses. Of the 14 estuaries, seven can be called good, five marginal and two of no importance as producers of shellfish. Nearly 900 acres of tidelands have been lost to industrial filling and dredging since 1960. Much of this fill remains unused. Only at unrealistic cost could this tideland be reclaimed and put back into shellfish production. It may, however, be possible to utilize dredge spoil materials to "construct" clam and oyster flats by spreading waste in pre-determined areas.

Studies in Yaquina and Tillamook bay have shown the clam value of estuaries. Diggers in Yaquina bay increased from ten thousand in 1960 to 20 thousand in 1966. Nine thousand clam diggers in Tillamook bay, 1963, harvested a minimum of 171,000 clams from a 16 acre bed--a production of a ton of clams per acre. A minimum of 119,000 to 147,000 people, annually, dig clams in Oregon.

Dungeness crabs are an important crop in Oregon estuaries to both recreational and commercial interests. Commercial crabbers take approximately 300,000 pounds annually from Oregon bays. Sports crabbers probably harvest much more.

Oyster production averages several hundred thousand dollars per year to the grower and could be much higher if technical production problems and outdated legislation can be solved to make full use of the estimated 5,000 acres of oyster ground in Oregon. Oyster crops valued at $5,000 per acre per year can be produced under optimum conditions. State of Maine studies (reported in November, 1966) indicate that with sophisticated management methods, coastal wetlands should produce, in shellfish alone average yields in excess of $4,000 per acre per year.

Several intertidal species of shellfish, such as the thin-shelled littleneck, geoduck and Lucina clams in Netarts bay, are probably rare or endangered species. Studies are needed to determine status and, if necessary, methods of protection for these forms.

WATERFOWL AND FUR BEARERS

Estuarial mud flats, waters, and marsh vegetation in Oregon bays provide important migration and wintering food and resting grounds for thousands of ducks, geese and swans. Pintial, widgeon, scaup, canvasback, scoters, redhead, ruddy, goldeneyes, buffleheads, mergansers and other ducks are common. The black brant is the most important goose. Limited numbers of whistling swans winter in bays like Nehalem and Nestucca. Brant are common in winter and migration wherever industrial developments have notruined the eel grass beds. Waterfowls hunting is an important recreational pursuit on nearly all bays. And let's not forget the myriad flocks of shorebirds--the plovers, sandpipers and their allies that depend on man to keep the habitat in usable condition and furnish recreation for thousands of bird watchers.

Mammals that use Oregon estuaries include fur bearers such as beaver, mink, muskrat, otter and nutria--and marine mammals, most commonly the harbor seal.

WATER QUALITY IN OREGON ESTUARIES

Recently adopted water standards in Oregon's estuaries applied a broad brush because of the shortness of time to meet the deadline set by the Congress and the scarcity of uniform water quality data from each estuary. The State Sanitary Authority staff had no choice but to blanket all estuaries with a single set of standards. The present standards should be considered for interim use and expanded to enhance the protection of each individual estuary.

Log storage in estuaries causes one of the most critical water quality problems. Water purity over public shellfish grounds is a common problem. Other needs include an orderly procedure for industrial and domestic developments in and around estuaries. An assured summer discharge of fresh water into estuaries is necessary to maintain proper salinities. Channel improvement can be very destructive to shellfish production, waterfowl usage, and fish production unless timing of dredging and disposal of spoils is planned with these living resources in mind. The timber industry must be cautious in their harvest to reduce sediment entering the estuaries.

MULTIPLE AGENCY MANAGEMENT OF OREGON ESTUARIES

Data from the Oregon Land Board indicates that approximately 40 local, district, county, state and federal agencies exert some form of management over Oregon estuaries. This situation may lead to overlapping jurisdiction but more importantly to indiscriminate and unilateral planning or worse--a lack of planning because of unclear jurisdiction.

A sampling of authorities and jursidiction includes: (some are direct and some admittedly on the fringe)

- Local and county
  - Port Commissions
  - County Courts
  - County and district planning groups
  - Oyster associations

- State
  - Land Board
  - Fish Commission
  - Game Commission
  - Sanitary Authority
  - Board of Health
  - Highway Department
  - Parks Department
  - Marine Board
  - Agriculture Department
  - Planning and Development Division
  - Engineer
  - Water Resources Board
  - Committee on Natural Resources
  - Port Authorities Commission
  - Agricultural Experiment Station--Oregon State University
  - Pacific Marine Fisheries Commission
  - State Police
  - Forestry Department

- Federal
  - Corps of Engineers
  - Federal Water Pollution Control Administration
  - Public Health Service
  - Food and Drug Administration
  - Bureau of Commercial Fisheries
  - Bureau of Sports Fisheries and Wildlife
  - U.S. Forest Service
  - U.S. Geological Service
  - Coast and Geodetic Survey
  - Soil Conservation Service
  - Bureau of Land Management

CAPSULE VIEW OF OREGON ESTUARIES

Columbia River estuary and Young's Bay

The Columbia river estuary has a saline intrusion for about 18 miles from the mouth. This water is an important ocean shipping and industrial area in addition to its importance as a commercial and sport salmon fishing center. Commercial fishermen take salmon by gillnet on the main river and in Young's bay and by trolling in the ocean. Groundfish, crabs and shrimp are captured offshore. Sturgeon are taken by both commercial and sport fishing in the river. Waterfowl use the marshes and open waters during fall and winter. Domestic and industrial pollution comes into the river and estuary from many sites. No determination of acreage was made.

Nehalem Bay 3,766 acres 1,180 tideland acres

Nehalem bay supports an excellent population of softshell clams in the upper reaches and quantities of crabs for sport fishing near the mouth. Excessive fresh water intrusion limits the variety of clam species to the low salinity adapted softshell. Sport fishing for salmon, flounder, perch and other fishes is important in the bay and across the bar. Waterfowl and shorebirds use the bay in fall and winter.

Tillamook Bay 8,839 acres 5,147 tideland acres

Tillamook bay is the largest Oregon estuary in tideland acreage. More than 80% of Oregon produced oysters come from Tillamook bay. Sport and commercial clam digging and crabbing is important. Excellent gaper and cockle clam populations are present with smaller quanities of softshell, butter, and cockle clams. Salmon and perch sport fishing is excellent within the bay. Sport boats fish for salmon offshore and commercial crab, salmon, shrimp and ground fish boats operate offshore. Pollution is a seasonal problem although excellent efforts are being made to reduce the problem. Log storage is the major industrial use. Large populations of widgeon, pintail, canvasback, scaup and other ducks and black brant use the area in fall and winter. Waterfowl hunting is popular.

Netarts Bay 2,406 acres (mostly tideland)

Netarts is a high salinity nearly pristine estuary with excellent clam populations and a small oyster industry. Quantities of gaper, cockle, butter, littleneck and softshell clams support heavy sport digging. Cockle clams are dug commercially. Sport fishing for salmon, perch, flounder and crab is popular in the bay. A minor amount of offshore fishing for salmon and ling cod is done. Remnant populations of native oysters, geoducks, and thin-shelled littleneck clams exist. Minor pollution occurs through sand flowage near the town of Netarts. Plans are underway to correct this situation through sewage treatment. Excellent black brant, waterfowl and shorebird populations use the bay. The upper bay joins Cape Lookout state park. Oregon State University estuary research area (150 acres) is near Whisky creek.

Sand Lake Approximately 700 acres

Sand Lake is a high salinity small embayment. Flounder fishing is excellent. There appears to be opportunity for oyster production. No industrial uses are evident. The main clam is the bent nose which is unimportant for food. Minor pollution may occur from bayside houses. Ghost shrimp are abundant and used as fish bait. Ducks and geese use the area during migration and wintering. Two public campgrounds receive heavy use during spring and summer. A delightfully beautiful area.

Nestucca Bay 1, 149 acres (mostly tideland)
This small bay is nearly drowning in freshwater. Low salinity restricts clam production to the softshell. Salmon and cutthroat trout fishing is excellent. Flounder and perch are also taken. Nestucca is a moderately important waterfowl hunting and wintering area. Domestic pollution from bankside communities in the upper estuary is a problem.

Salmon River 438 acres
The petite Salmon river estuary contains small quantities of softshell clams and supports a fishery for flounder, perch, salmon and cutthroat trout. Water fowl and other birds use the area. A Nature Conservancy area, on the south side of Cascade Head adjoins the estuary. This estuary is an excellent area for study of intertidal zonation of plants and animals.

Siletz Bay 1,203 acres (mostly tidelands)
This small bay supports important sport fisheries for salmon and cutthroat trout, flounders and perch. Softshell clams are harvested on the flats between Kernville and Cutler City. Large numbers of waterfowl use the bay during migration and wintering. Housing developments encroaching on the estuary threaten the value of the bay by dredging and filling of the valuable shallow marsh. This "key" type of housing development in Florida has demolished several entire bays. Rumored long range plans for Siletz bay point to abolishment of all tidal flats.

Yaquina Bay 2,853 acres 1,741 tideland acres
This large bay is an important industrial, commercial and natural resource bay. Cockle, gaper and softshell clams (in that order) are an important recreational and commercial resource. Crabbing and bay fishing for salmon, flounders, perch and other species is very popular. Sport boats fish offshore for salmon. Commercial fishermen take crabs, shrimp, ground fish and salmon offshore. Yaquina, like Coos Bay is a major industrial bay with log storage, pulp manufacturing, lumber shipment and other industrial uses. Recent dredging programs have destroyed valuable shellfish and waterfowl areas by dredging and filling. Black brant, several species of ducks, and shorebirds use the bay during migration and wintering. Yaquina is a producer of both native and Pacific oysters. Oregon State University's Marine Science Center and marine research reserve are located on the bay.

Alsea Bay 2,227 acres
Like Siuslaw, Alsea bay is an excellent sport fishing bay for salmon and cutthroat trout. Perch fishing is good and flounder angling is fair. Alsea bay is fair for waterfowl. The softshell is the most important clam although cockles and gapers are present in small numbers. This bay may have some potential for oyster production. Industrial use is limited to log towing. Lint Slough, on Alsea bay, is an Oregon Game Commission saline salmon rearing experimental station. The Port Commission is currently studying long range development.

Siuslaw Bay 1,589 acres 597 tideland acres
Siuslaw bay provides excellent fishing for salmon, cutthroat trout, flounder and perch and moderately productive clamming for softshell and gaper clams. The estuary is narrow and crooked. Water quality appears to be good. Industrial use is slight.

Umpqua Bay (including Winchester) 5,712 acres 1,548 tideland acres

Umpqua is a sizable estuary and has good quantities of large softshell clams. Because of low salinity, other clam species are uncommon although Winchester bay (near the mouth of the estuary) contains a few gaper clams. Incredible sport salmon fishing in the lower bay and adjacent ocean makes this a truly great sport fishing area. Commercial salmon trolling, shrimp fishing, crabbing and ground fishing occur offshore. Striped bass and green and white sturgeon are taken in the upper bay. Waterfowl, particularly scaup, use the upper bay. This estuary is an important industrial area with pulp manufacturing, lumber shipping and other industrial uses.

Coos Bay 9,543 acres 4,569 tideland acres

Coos Bay is the largest Oregon estuary in total acreage. It is an important industrial bay with log storage, lumber shipment, pulp manufacturing and other commercial uses. The lower bay contains excellent beds of gaper and cockle clams; other species are abundant but small. Historically, Coos bay had tremendous populations of native oysters. None have survived. Probably pollution from fires of two hundred years ago wiped out the population. Pacific oysters are produced in a small area in South Slough. Salmon, striped bass, shad, perch and other fish are caught by sportsmen in the bay. Commercial boats take quantities of ground fish, shrimp, crabs and salmon offshore. Ducks, especially canvasbacks and pintails are abundant migrants and wintering birds.

Coquille River 703 acres

This low salinity bay contains limited beds of softshell clams. A small commercial and recreational crab fishery exists. Striped bass, shad and salmon are taken in the bay. The bay is a valuable shad and salmonid rearing area. Coquille valley waterfowl populations, especially pintails and widgeons, use the bay as migrants and wintering birds.

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OREGON COASTAL SPORT FISHERIES

Appendix A

The Oregon fisherman has long been aware of the variety of angling opportunities afforded in the estuarine and salt-water environment. Unique and extremely valuable fisheries exist, such as the offshore salmon fishery and the increasing number of anglers seeking the nongame marine species. The estuary fisheries for sea-run cutthroat trout, salmon, and the nongame marine species will continue to increase in importance.

The significance of the estuary to the fishery resources of Oregon cannot be overemphasized. All anadromous species of trout and salmon are dependent upon this saline environment to successfully complete their life cycle. Additional research is essential to further define the relationship of the tidal areas to the ecology of the anadromous species.

The ability of these fisheries to continue their contribution to the recreational and economic resources of the State is largely dependent upon recognition being afforded this natural resource in planning all future developments affecting the bays of Oregon.

Data pertaining to the sport fisheries is presented in the following tables.

The Siuslaw summer and fall tidewater fishery for salmon and sea-run cutthroat continues to grow in importance. A summary of statistics for the 1965 and 1966 fisheries is presented in Table 1.

Table 1

A summary of Statistics
Siuslaw Tidewater Fishery
1965 and 1966

CALCULATED TOTAL CATCH

Year	Boat Days	Total Anglers	Cutthroat	Chinook	Coho	Coho and Chinook Jacks	Fish per Angler
1965	6,434		6,314	161	1,652	2,420	
1966	7,969	16,629	5,698	83	1,004	582	0.44

The average yearly catch of cutthroat for the years 1958 through 1964 is 10,937. The calculated catch for both cutthroat and salmon was below average in 1966. The 1966 take of adult salmon was 83 chinook, 1,004 coho, and 582 jack salmon.

The Alsea and Siletz River tidewater sea-run cutthroat trout and salmon fisheries have been monitored for several years. An estimate of the angler use and rate of catch is obtained through the cooperative effort of moorage operators in recording angler boat counts and creel data. The calculated boat trips and total catch are subject to error; however, the trend in angler use and success is indicative of the contribution made by this fishery.

The estimated angler use and catch in the Siletz tidewater for 1957 through 1965 is listed in Table 2.

Table 2

Estimated Angler Use and Catch,
Siletz River Tidewater Fishery,
1957-1965

Year	Boat Days	Cutthroat	Chinook	Coho	Jacks Chinook	Jacks Coho	Jacks Total
1957	5,002	1,391	364	1,570	350	509	839
1958	10,656	4,334	723	504	469	400	869
1959	14,564	3,875	2,069	2,955	541	479	1,020
1960	9,040	6,223	603	556	870	803	1,673
1961	10,430	2,856	980	852	931	1,397	2,328
1962	10,561	4,851	666	1,025	1,436	1,983	3,419
1963	5,930	1,234	447	1,093	253	148	401
1964	8,071	1,493	608	1,969	753	1,227	1,980
1965	10,307	4,247	797	1,306			1,256

For the years of record the average number of boat days recorded annually is 9,395, and catch per unit of boat effort is 0.35 for cutthroat; chinook, 0.08; coho, 0.15; and jack salmon, 0.16.

The estimated angler use and catch for the Alsea River tidewater, 1957 to 1965 may be found in Table 3.

Table 3

Estimated Angler Use and Catch
Alsea River Tidewater Fishery, 1957-1965

Year	Boat Days	Cutthroat	Chinook	Coho	Jacks		
					Chinook	Coho	Total
1957	5,675	3,008	244	516	511	516	1,027
1958	9,685	7,774	475	2,167	843	2,167	3,010
1959	7,659	3,772	303	791	198	791	989
1960	8,694	7,287	188	2,903	1,020	2,903	3,923
1961	9,047	3,921	341	2,123	346	2,123	2,469
1962	11,290	9,582	348	4,218	1,190	4,218	5,408
1963	10,068	3,845	872	3,541	1,118	3,541	4,659
1964	9,312	7,443	914	3,054	853	923	1,776
1965	10,378	5,360	477	3,289	516	1,828	2,344

Data from 1965 angler effort survey indicates 125,000 angler-days for marine species. Angler trip figures from 1965 telephone frame survey based on 4 percent population contact.

The average number of boat days of effort expended on the Alsea estuary is 9,100. The average catch per boat day of effort was cutthroat, 0.63: chinook, 0.05; coho, 0.25: and jack salmon, 0.30.

Programming allowing expanded research effort on the ecology of cutthroat trout and its relationship to the saline and freshwater environment has been initiated.

The magnitude of the recreational fisheries, dependent on many factors associated with the tidal areas of Oregon, is further emphasized by the estimated boat trips from the major fishing areas listed in Table 4.

Table 4

Estimated Total Boat Trips by Anglers for Major Fishing Areas

Area	Year	Period	No. of Boats
Mouth of Columbia R.	1965	June 16 - Sept. 30	36,480
Brookings	1965	July 1 - Sept. 15	4,811
Coos Bay	1965	June 1 - Sept. 30	9,844
Gold Beach	1965	July 1 - Sept. 15	5,836
Mouth of Siuslaw	1965	June 1 - Sept. 30	3,885
Winchester Bay	1965	June 1 - Aug. 31	11,313
Yaquina Bay	1965	June 1 - Sept. 30	19,361
Depoe Bay	1965	June 1 - Sept. 30	12,804
Lower Columbia R. (to Bonneville) /1	1966	Entire Year	39,523
Lower Willamette (to Oregon City)	1965	Mar. 1 - May 30	35,238
Siuslaw R. Tidewater	1966	Aug. 1 - Dec. 1	7,969
Tillamook Bay	1965	Sept. 1 - Nov. 15	2,980
Tillamook (offshore)	1965	June 1 - Sept. 18	1,797
Cape Kiwanda /2	1965	14 days checked June 15 - Sept. 15	792
Alsea R. Tidewater	1965	Aug. 1 - Dec. 1	10,378
Siletz R. Tidewater	1965	Aug. 1 - Dec. 1	10,307

/1 No estimate available for Columbia above Bonneville, but is undoubtedly less than 5 percent of lower river.

/2 Not expanded. All other estimates are expanded from standard samples.

Estimates of the Oregon offshore sport salmon catch are derived from a statistical sampling program. In 1966, 381,476 anglers participated in this recreational fishery taking 394,805 salmon.

The offshore salmon catch data by port of landing is depicted in Table 5.

Table 5

Oregon Offshore Sport Salmon Catch
1966

Ports	No. of Parties	No. of Angler Hours	Anglers	Coho	Chinook	Total Catch
Brookings	3,378	36,159	9,250	2,008	739	2,748
N. of Columbia (Ore.)	11,055		47,811	53,571	20,413	73,985
N. of Columbia (Wash.)	25,171		116,121	134,226	50,960	185,186
Coos Bay	9,872	137,071	31,558	21,804	1,126	22,931
Depoe Bay	10,613	185,527	41,707	32,410	1,262	33,672
Gold Beach	6,342	56,086	16,554	1,973	2,761	4,734
Siuslaw	3,490	42,348	10,245	7,996	1,155	9,152
Winchester Bay	13,695	234,152	52,984	49,253	6,440	55,688
Yaquina Bay	18,136	254,301	55,246	23,074	2,383	25,457
TOTAL			381,476			394,805

The interest in public participation in the various recreational fisheries continues to increase. Licensed anglers in Oregon are expected to approach 800,000 by 1973. Angler trips are estimated at 5,774,500. The distribution of fishermen by type of water is estimated through the year 2000 in Table 6.

Table 6

Calculated Distribution of Fisherman by Type of Water

Type of Water	1965	1973	1980	2000
Licensed anglers	600,000	800,000	980,000	1,460,000
Freshwater:				
Cold-water/1 Angler trips	3,315,380	4,420,000	5,380,000	8,060,000
Warm-water/2 Angler trips	555,612	742,000	903,000	1,352,000
Saltwater:				
Salmon	334,500	446,200	543,200	814,400
Nongame marine species	124,749	166,300	202,800	303,600
Total Fisherman Days	4,330,241	5,774,500	7,029,000	10,530,000

/1 Anglers who fish primarily for salmonids

/2 Anglers who fish primarily for warm-water species.

Angler trips for the various classes of water were determined by the 19 angler effort study, based on four percent population contact.

Table 7

Catch of Salmon - 1965
Commercial and Sport

Total Take in Oregon Waters

(Oregon Sport catch from punch card survey)
(Commercial catch figures supplied by O.F.C.)

SPORT		COMMERCIAL	
		Troll	1,044,933
Total	348,318	Gill net	530,900
			1,575,833
Percent of Total	18.1		81.9

Catch Landings by Species in Specific Areas

/1 Mouth of Columbia	Chinook	Coho	Total
Sport Catch	53,181	251,762	304,943
Commercial Catch	13,594	465,264	478,858

(Includes Washington sport and commercial landings)

/1 Newport			
Sport Catch	688	34,681	35,369
Commercial Catch	14,544	202,854	217,398

Catch Comparison for Lower Columbia River

/2	Sport Catch	All Species	32,569	Oregon Only
	Commercial Catch	All Species	530,900	

/2 Coastal Catch

Sport Catch	260,727 - Oregon anglers only
Commercial Catch	1,044,933

/1 Catch estimates from statistical port sampling

/2 Catch estimates from punch card summary.

Prepared By: M. L. Montgomery
Oregon Game Commission

SHELLFISH VALUES IN OREGON ESTUARIES

Appendix B

Oregon has fourteen estuaries of which seven can be called good, five marginal and two of no importance as far as shellfish are concerned. Consequently, the seven good estuaries are subjected to heavy utilization by both personal-use and commercial users.

It has been estimated that prior to 1960 that Oregon had a total of 41,278 estuarine water acres of which 19,874 acres were exposed tidelands at low tide. Since 1960 an estimated 830 acres of exposable tidelands have been lost forever to filling from dredging for industrial development, etc. Much of this 830 acres remains unused. The resource, however, has been destroyed and can never be reclaimed. This loss of land has concentrated ever increasing numbers of clam diggers on less and less land and reduced important juvenile rearing areas for many important marine foodfish species.

Two studies point out the recreational value of estuarine lands just for clams alone. In 1960, a study was started to determine the number of people who used two clam beds in Yaquina Bay. During the period June 22 through September 20, 1960, 5,501 clam diggers were counted on these two clam beds. Of this total 2,986 were interviewed. From these interviews it was determined that these people harvested 137,400 clams. In addition to this, commercial clam diggers harvested an additional 29,000 clams (11,906 pounds). Interviews revealed that 49% of these people were from Lincoln County, 45% from other counties (21 counties represented), and 6% were from other states or nations. During the period of this study it was estimated that 9-10,000 clam diggers utilized Yaquina Bay for clam digging. In further studies in 1965 and 1966 it was estimated that this number of diggers had increased to 17-20,000, and no decline in this trend was noted in 1966 or is it expected in the foreseeable future. In fact, it is believed the trend will continue upward.

During 1963 a study was conducted on the clam bed at Garibaldi (Tillamook Bay) to determine the number of diggers and clam harvest. From this study it was estimated that 8,732 personal-use clam diggers dug 171,000 (minimal estimate) clams during the year 1963. Based on average weights, this sixteen acre clam bed produced 2,000 pounds of clams per acre. The commercial harvest was not estimated for this area.

From these studies we see that utilization is increasing in Yaquina Bay and from limited sampling we know that this is true of the six other bays that we consider to be good. Assuming that the number of people who come to Yaquina is at least equal to that of the other six bays (Tillamook, Netarts, and Coos Bay undoubtedly attract more clam diggers) we can say that a minimum of 119,000 to 147,000 people dig clams recreationally in seven good estuaries. There are probably at least another 10,000 people who go to the five bays that are marginal in production. Assuming that 50% of our remaining tidelands in our seven good estuaries will produce a ton of clams per acre, personal-use diggers probably harvest a minimum of 16 million pounds of clams annually. An additional 50 to 600,000 pounds are harvested commercially.

None of the preceding figures take into consideration the number of people who use the estuaries for recreational crabbing, fishing, water skiing, etc. Commercial crab fishermen in the bays take approximately 300,000 pounds of crabs annually worth a minimum of $42,000 to the fishermen. It is estimated that 5,000 acres of Oregon estuarine land is suitable for oystering. These lands could produce several hundred thousands of dollars if put into production.

One of the many intangible values of estuaries is the fact that they provide habitat for waterfowl, and nursery and spawning areas for many marine foodfish. Disruption or destruction of these areas could cause a chain reaction resulting in inestimable damage to our marine resources. In retrospect we see that estuaries are used by people from all over the United States, Oregon Canada and other nations. They are used by many people and should not be destroyed for use by a limited few for personal gain.

Prepared By: C. Dale Snow
Oregon Fish Commission

WATER QUALITY IN OREGON ESTUARIES

Appendix C

The Oregon State Sanitary Authority recently adopted water quality standards which prescribe acceptable conditions for estuaries along Oregon's coastline. Due to the shortness of time to meet inherent Federal Water Pollution Control Administration dictates and the scarcity of uniform water quality data from each estuary, the Sanitary Authority staff had no choice but to blanket all estuaries with a single set of standards. Their choice of standards for broad application can certainly be applauded as credible and a product of wisdom; however, these standards should be further expanded to enhance the protection of each individual estuary. Since Oregon's estuaries vary considerably in basin configuration and natural water quality, special emphasis should be given to undertaking detailed water quality studies which will lead to specific estuary standards.

Log Storage

The most critical water quality conditions thus far found in Oregon estuaries are associated with the massive log storage areas in upper Yaquina and Coos Bays. Since little is known about this relationship, a detailed study of the insitu conditions is recommended.

Orderly Development-Conflicts of Interest

There is a dire need for an orderly procedure of industrial and domestic developments in and around our coastal estuaries. An orderly development plan should not allow serious conflicts of interest as we are beginning to witness in recent years. Perhaps the best example of conflict may be seen on the north shore of Coos Bay where one Federal agency has leased land to a large wood pulp company for their structure and approximately 200 acres of industrial waste lagoons. Contrarily, all land immediately surrounding the industrial complex is being opened and developed by a second Federal agency for recreational use. The two interests are not compatible.

Fresh Water Inflows

The degree of salinity and other water quality characteristics of an estuary are greatly determined by the volume and timing of fresh water inflows. These balances of natural conditions necessary for estuarine life become critical during both the peak winter flows and minimum summer discharges of fresh water which upset the salinity balance. Man is not yet capable of fully controlling the winter flows, but he can be very effective in guaranteeing reasonable summer discharges of fresh water to maintain proper salinities for estuarine life. Thus, in the management of our coastal streams, some provision should be made for an assured summer discharge for estuarine salinity control.

Channel Improvement

In recent years there has been a rapidly increasing need for channel improvements in estuaries to assist the navigation of commercial vessels. There are two general types of damage to estuary life from these projects which could be minimized by proper planning. One is the actual destruction of shellfish by dredging in the channel pathway. Passage routes or docking facilities should be developed outside known areas of intense shellfish production. The second type of shellfish destruction results from the deposition of dredging spoils on top of shellfish beds. This can be minimized by a careful selection of spoils areas away from the shellfish growing zones. Particular attention should likewise be given to the timing of estuary dredging so resulting turbidities do not interfere with the delicate stages of shellfish larvae.

Prepared by: Glen D. Carter
Oregon State Sanitary Authority

OREGON ESTUARIES

Appendix D

The American Fisheries Society is one of the oldest societies in North America and has served the field of Fisheries since 1870.

The Society, and other professional and lay groups over the nation, are increasingly concerned for wise use of the estuarine resource in the United States. Members of the Oregon chapter of the Fisheries Society have noted destructive practices in Oregon and formed an estuarine committee to investigate the resource.

We are aware of the fact that estuaries are places where salt water meets fresh water. Because of the changing rivers and seas, and because of geological processes affecting the continental shelf, these shorelines present an ever-changing prospect over the years and centuries. They are not unlike our ocean beaches which have received so much attention during this past legislative session and now on Nestucca Bay. The zone of interplay between the margins of the sea and the land known as estuaries is the environment for a remarkable assemblage of terrestial and aquatic life. Many of the fishes in Oregon, especially our great salmon and steelhead resources, are dependent on the estuaries both in the downstream and upstream migrations and during the critical months of rearing.

The estuarine areas or Bays in Oregon are also home for large populations of birds, waterfowl, shrimp and many species of fish. Shellfish such as oysters, clams and crabs are all residents of estuaries.

The importance of estuaries in our economy has attained national significance in the past several years. On the east coast, great alarm has been expressed over the destruction of estuaries from Maine to Florida. To point out this problem, and to try to halt indiscriminate development of these areas, the Atlantic States Marine Fisheries Commission has taken a definite stand in a statement of policy and guidelines for developing and managing estuaries. The American Fisheries Society sponsored a symposium on estuaries and published the paper presented for distribution to interested people. Many additional organizations have been developed to protect these valuable areas. West coast estuaries need special treatment because the steep shores of the Pacific coast slope quickly to deep waters severely restricting the estuarine environments. The San Francisco Bay and Puget Sound areas are probably the most important estuarine complexes on the west coast. In California alone, to exemplify the problem, the state has lost approximately 255,800 acres out of a total of 381,900 acres of estuarine land. All life that depends on estuaries and the recreation and business that flourishes in these areas must be centered on about ten important locations in Oregon. Most of you are familiar with the recreational opportunities and the commercial shipping importance of such bays as Coos, Yaquina, Winchester, Nehalem, Tillamook and Siletz. Each acre of land that is lost destroys something that we cannot regain in Oregon.

We have already noted destruction in these important areas because of the Yaquina Bay dredging, Siletz Bay land developments, un-restricted use of pesticides that have killed aquatic animals, construction of boat basins that inundate important oyster and shellfish growing areas, and placing of highway fills in convenient locations but to the destruction of the estuarine resources.

The public enjoys going to bays as much as going to the beach. Most of our coastal cities are built on bays and estuaries. The important moorages for the tremendous offshore salmon resource and harvesting of other fish is centered in our coastal bays. The calm water makes an ideal place for recreationists to dig clams, to catch crab, to fish. Our bays are now used for waste disposal, industry, and for shipping that will become increasingly important as Oregon expands. As mentioned before, these areas are important for fish production, especially for anadromous fish, and may affect these populations in both their upstream and downstream migrations. The Oregon Game Commission's experiment on Lints Slough near Waldport brings out the importance of salt water rearing to anadromous fish and how these rich areas can be utilized to increase the resource. These areas are important to waterfowl and are the remaining locations for black brant in Oregon. Many new resorts are being built around estuaries, showing that the location is a desirable place in which to live and play.

There is a nationwide push now being made to meet the challenge and save important estuarine areas.

Hearings have been completed in the United States Congress on several bills, primarily H.R. 25. The act would authorize the Secretary of the Interior, in cooperation with the states, to preserve, protect, develop, restore and make accessible estuarine areas of the nation which are valuable for sport and commercial fishing, wildlife, conservation, recreation and scenic beauty, and for other purposes. Testimony given at these hearings has called attention to nearly every facet of the problem.

In Oregon, we see that at Oregon State University and University of Oregon there is great interest in marine areas. The school of fisheries and wildlife, school of oceanography, and the fact that Oregon State University may become a sea grant college, all bring out the importance the people of Oregon and the nation have given to these locations.

Many state government agencies are concerned with the problem. The Oregon Game Commission and Fish Commission of Oregon are both vitally interested in the protection of our estuaries. The State Parks Department, the Resource and Development Commission and many others all have a stake in these areas. Two organizations that have tried to promote more interest in estuaries have been the Oregon chapter of the American Fisheries Society and the Portland chapter of the Izaak Walton League.

It is the feeling of the estuary committee of the American Fisheries Society that this is a time for an action program. Our committee has been told by Mr. Panissidi of the State Land Board that there are approximately 40 public agencies that exert some management control over the estuarine resources in Oregon. Many of these are port commissions which have strong powers. Further, we find that no inventory is available to delineate the private or public tidelands and sub-tidelands. The issue is further clouded by accretion, erosion, avulsion and artificial fills. It is felt that there must be a state agency designated, or a new commission formed, to manage and develop the estuaries properly.

A paper by Mr. William Q. Wick, presented to the Oregon Chapter of the Wildlife Society in February, 1967, seems appropriate. "Everyone agrees that something must be done. Perhaps this is a good way to get nothing done. Complacency will bring about total destruction of our estuaries as we know them today."

Prepared by: Robert L. Borovicka
Member, Estuary Conservation
and Development Committee
Oregon Chapter, AFS

Chairman, Marine Committee
Portland Chapter, Izaak Walton
League of America

EXCERPT FROM ATTORNEY GENERAL'S OPINION
December 26, 1962

Appendix E

Port districts in Oregon have been given broad powers by the legislature over the control and regulation of ports and their waters. But this control does not extend to the leasing or selling of tidelands. This is apparent upon noting ORS 777.120 which provides in part:

"(1) To the full extent which the State of Oregon might itself exercise and control or to which it can grant to ports the right to exercise the same, ports shall have full control of all bays, rivers and harbors within their limits, and between their limits and the sea, with full power and authority to, from time to time, make, establish, change or abolish wharf lines in such harbors and rivers, and to make, establish, change, modify or abolish such rules and regulations for the use of navigation in such harbors, or the placing of obstructions therein or the removal of obstructions therefrom, as the port deems convenient, requisite or necessary or in the best interests of the maritime shipping and commercial interests of the port."

This provision gives the port districts the authority and power to control navigation in such manner as deemed convenient or necessary and in the best interests of maritime shipping and the commercial interests of the port. Such authority and control relate to the functions of navigation and commerce, not to the disposal of state lands. This contention is borne out by consideration of ORS 777.130 which provides the means by which port districts are to obtain needed lands for wharves, docks, piers and other activities of the port. This statute contemplates that needed lands will be purchased or acquired by condemnation or other lawful manner.

ORS 777.120 is not a grant of the state's title in the soil by any possible construction of the statute and any law bearing any indication of such a grant should be strictly construed against the port and in favor of the state. Morrow V. Warner Valley Stock Co., (1910) 56 Or. 312, 327, 101 P. 171; Massachusetts v. New york, (1925) 271 U.S. 65, 89, 70L. Ed. 838, 849; 16 Am. Jur., Deeds, 167.

It is my opinion that the State Land Board has authority to lease tidelands within the boundaries of a port district subject to the authority of the port to curb, control and improve navigation within the territorial limits of the dist.

ROBERT Y. THORNTON, Attorney General,
By Robert G. Danielson, Assistant

CHARTER

NACD SHORE EROSION COMMITTEE

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It shall be the responsibility of the NACD Committee on Shore Erosion to focus its concern on matters relating to the erosion of land along the ocean, lake and coastal frontages of the nation in keeping with the purposes and objectives of the NACD. In so doing, they shall take the responsibility to:

1. Develop, with the help of responsible agencies, a formidable appraisal of the scope and intensity of erosion occuring on the shoreline ofoceans, lakes and coastal waterways of the United States and its possessions.

2. Develop an appraisal of present and projected technical and scientific means for preventing or retarding shore erosion.

3. Review the programs now in force by the federal, state and local governments for their effectiveness and scope in preventing shore erosion.

4. Seek the consultation and develop an exchange of ideas related to the problems of shore erosion with state and federal authorities having responsibilities in this and related fields through the establishment of an advisory committee.

5. Foster the development of improved methods of combating shore erosion including but not limited to the design of structures and the development of plant materials that may be useful in the retardation or elimination of shore erosion on certain beach areas and those of inland waters.

6. Seek the implementation of new research and the continuation of research presently under way that will offer effective means for retarding or eliminating the destruction of land and properties located along the nation's shorelines.

7. Keep its interests broad and addressed to problems that effect more than one state and are general enough in nature to be of national concern, referring to the individual State Associations, matters which could most logically be a matter of state concern.

APPENDIX B
BILL'S RECORDING SERVICE

Preliminary Draft

Water Resources Sub-Committee

Tillamook County Economic Planning Council

Archibald Pye, Chairman

Bernard Stacy

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Carl Bosch

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George Porter

Dale E. Anderson

Raymond Wyss

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William Maxwell

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Sam Hayes

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Earl Worthington

Virgil Chadwick

Carl Hurliman

Charles S. Bake

Gene Filosi

APPENDIX B-1
BILL'S RECORDING SERVICE

DRAINAGE AND FLOOD CONTROL

Situation

Nearly 75% of our total annual rainfall occurs during the months of November, December, January, and February, causing heavy flooding and sedimentation on nearly 11,000 acres of prime farm land. During the summer growing season, the nearly total lack of rainfall makes irrigation a necessity for the growing of pasture or the newly developed row crops. Low lying farm lands totaling 10,000 acres are presently protected by bay or river dikes. Additional diking and stream clearance will be necessary to complete protection from river flooding.

Sediment damage varies with the degree of flooding, earth slides in the mountain areas, logging procedures, etc. The effects of the multiple burns are being minimized by the reforestation of large acreages by both private and state foresters.

River bank erosion is a serious problem on the lower Nehalem, Wilson, Kilchis, and Trask, with some erosion on the Tillamook and smaller streams. Wind erosion, especially in the sand dune areas, is a problem in several sections of Tillamook County, particularly near the mouth of the Nestucca Bay.

Cooperative work on the part of the Soil Conservation Service, OSU Extension Service, U. S. Forest Service, Bureau of Land Management, Tillamook County, and community and youth groups in planting of beach grass, has resulted in excellent progress in combating wind erosion damage.

The ten drainage districts covering nearly 9,000 acres are doing an excellent job of solving drainage problems within their areas. The larger drainage problems, however, we feel, should be solved by river basin drainage districts rather than a large number of small districts.

Nearly 53,000 acres of Tillamook County need some type of water management, either flooding, drainage, or irrigation. According to the 1959 U. S. Census, there are about 32,000 crop land acres in the county. Of this, 7200 acres on 242 farms are now (1967) being irrigated. The advent of increased row crop agriculture will put an extreme amount of pressure on our already over-appropriated streams. By the year 2,000, we believe, the irrigated acreage in Tillamook County will total nearly 25,000. Nearly 30% of the farms in Tillamook County are still not covered by water rights.

The Army Corps of Engineers' study indicates no feasible large storage project on any of Tillamook County streams. Any such storage project for flood control, irrigation, domestic, and industrial water use and the enhancement of fish and wildlife, will have to be financed by some local agency.

Recommendations

1. This committee recommends cooperation with the State Water Resource Board by all citizens and agencies to the end that the best use is made of our water resources for all purposes.

2. The organization or re-organization of drainage district to meet future needs in relation to flood control and drainage is recommended. These districts should be large enough to implement a well-planned drainage program as developed in cooperation with SCD, the State Water Resource Board and Corps of Army Engineers. It is recommended that studies be made of the feasibility of organizing a drainage district for each of the flood plain areas of the Nehalem river, Nestucca river and Tillamook Bay and tributaries.

3. In the established or new drainage districts, it is recommended that all needed interior drainage be developed making full utilization of financial and technical aid available through the Tillamook ASCS, Tillamook SCD, Extension Service and all other federal and state agencies.

4. All drainage and flood control work should be accomplished in such a way as to increase or maintain the recreational and industrial values of our water resources.

5. Research and Extension Service projects should be developed in methods of waste disposal on farms as well as urban areas to prevent water and air pollution.

6. Studies should be made by the Tillamook SCD on the possibility of the development of small water shed projects to help increase irrigation water for agricultural use and contribute towards flood control or improve drainage.

7. Bank stabilization, channel clearance and re-alignment is needed on the Wilson River from Mills Bridge to Tillamook Bay. The outlet of the Kilchis River, the Trask River from Herb Kanne farm to Tillamook Bay proper, the Nestucca from Farmer Creek to the ocean and the Nehalem from Batterson to the ocean. Dikes on all rivers should be brought up to SCS or Army Engineers' specifications. Drainage districts are urged to work with all federal and state agencies in an effort to get federal funds to implement these needed projects.

8. A review study covering all major rivers in the county was authorized by the Congress in 1956. It was funded in 1964 with $245,000 authorized. The report is scheduled to be completed in 1969. The purpose was to study resource needs and potentials, covering the overall drainage area of rivers under study and be part of a framework plan for future development. It is also to determine the various aspects of a broad scale program for flood control. This would include both potential projects within limits of Section 205 of the 1948 flood control act as amended and those that might require separate congressional authorization.

In view of the fact that verbal reports by representatives of the U. S. Army Engineers District, Portland Corps of Engineers, indicate that no flood control, drainage, water storage or other plan for the future development is economically feasible at this time; with the possible exception of the Tillamook area. The committee recommends that a careful review of the report be made by the Tillamook County Court, the Tillamook Soil Conservation District, the Oregon Water Resource Board and all other interested agencies and individuals to determine the extent the Corps met the objectives of the report and make every effort to get a program under way that will result in flood control, water conservation for multiple-purpose use including irrigation, municipal water supplies, fish and wildlife, water quality control, power generation, recreation and meet the desires of local interests.

9. There is a need for the development of small storage projects to provide for the domestic water needs of the County. The past few years of low rainfall during the summer months and increased use of water by each family has caused water shortage problems on most systems. We recommend the rapid completion and implementation of the county-wide comprehensive water and sewer study. It is recommended that loans or grants be made available to help supply domestic water requirements and that the cooperation of all federal and state agencies be secured to meet this problem.

IRRIGATION

Situation

An increased irrigated acreage is necessary to expand production of hay, silage, and forage for Tillamook county dairy herds. As human populations increase, there may be a market for vegetables and horticultural crops on the fresh or processed outlets. This will require stepped-up irrigation. Increase agricultural production means increased payrolls.

According to the 1964 U. S. Census, there are about 30,000 cropland acres in the County. Of this, 8,000 acres on 350 farms is now being irrigated.

Based on soil characteristics, nearly the entire 30,000 acres of cropland may be classed as irrigable. The location of lands in relation to water supply, irrigation facilities, land preparation, storage costs and cost-benefit rations will determine the amount irrigated.

By the year 2000, we believe that the irrigated acreage in Tillamook will total 25,000. This more than three-fold increase will require storage facilities. Some streams are over-appropriated now. Multiple purpose storage dams for domestic and industrial supplies, flood control, irrigation, power, and recreation may provide the answer.

The 25,000 acre total would require a supply of 40,000 acre feet over a 100 day period, or 1.5 acre feet per acre. The use per acre by months would total two inches each in May and June, four inches in July and September, and six inches in August.

Slight increases in irrigation, water supplies, along specified streams, are available now. On the other hand, well water is being used by some operators in the Tillamook river area.

Recommendations

1. Every farm irrigation system should be covered by a water right adequate to meet the farm needs. Water rights should be adjusted, either upward or downward, to meet present usage.

2. Studies must be continued to determine water usage according to crop needs for pastures and potential cultivated crops, adjusted to soil types.

3. Irrigation systems must be planned to meet the type and size of enterprise carried out on the farm, engineered for efficient use of power and water.

4. Information is needed on economic returns from irrigation, in Tillamook county. This data would include the feasibility of irrigation for the various crops, by species of grass, legume, or horticultural crop.

5. Positive action is necessary now to plan for multi-use, water control dams.

6. Experimentation with devices designed to determine irrigation timing and amounts should be continued.

7. Future plans for disposal of waste water from industrial plants that might contribute to harmful stream pollution include the utilisation and purification of such water by secondary use for sprinkler irrigation.

DOMESTIC WATER

Situation

With an average annual rainfall of approximately 85 inches in the Tillamook county area, a domestic water shortage might seem unlikely. Rainfall distribution charts, however, show that 70% of the precipitation occurs in the five months of November through March. Less than 7% of the rain falls during the summer months of July, August, and September. Of the 34 water systems in the county, most of them experience some water shortage difficulties during dry summers.

The primary water source, for most systems in the county, is a small stream. A few reservoirs and a scattering of wells and springs completes the water source picture.

Through the cooperation of Tillamook County Court, most water districts and commissions, Tillamook County has underway a comprehensive, water and sewage study which should point out the resources and needs of this county for the next 20 years.

Water use, both on a per capita basis and as a result of increased human population will place greater demands on Tillamook county water systems each year. County population figures of 8,810 in 1920, 12,263 in 1940, 18,955 in 1960 indicate that we can reasonably expect at least a 25% increase in population over the next 25 years. We anticipate an estimated 50% increase in water use in the same period. (These figures do not reflect industrial usage which is covered in the industrial water use section).

Domestic water supply problems in Tillamook county include murky water in winter due to rapid surface runoffs during storms, water shortages during the dry months, and inadequate storage and distribution systems for future needs. There are, of course, bright spots in the picture. Several water districts, including Tillamook, Fairview, Rockaway, Pacific City and other have made studies and improvements in the last few years.

Recommendations

1. That additional protection be planned for all watersheds to cut down rapid winter runoff. This could be accomplished by continuing the improvement in logging practices, completing reforestation projects, and considering water control structures.

2. That the county-wide comprehensive water and sewage study be completed and implemented as rapidly as possible.

3. The comprehensive survey for the County on sewage disposal and water supply approved by FHA in cooperation with the Tillamook County Court and water districts should be completed as soon as possible. The County and State Water Resources Committee should work with local state and federal agencies in planning to reach the goal of adequate and safe water supplies for domestic and municipal use for the entire County now and in the future.

4. There is a need for the development of small storage projects to provide for the domestic water needs of the County. The past few years of low rainfall during the summer months and increased use of water by each family has caused water shortage problems on most systems. It is recommended that loans or grants be made available to help supply domestic water requirements and that the cooperation of all Federal and state agencies be secured to meet this problem.

5. Practically all of our water for domestic and municipal use comes from very small streams and creeks. No domestic and municipal water is being drawn from the major streams. Since possible future water needs in the county for industrial, flood control, power, or irrigation requirements might indicate need of a dam in a major stream, the committee recommends that municipal and domestic water supplies be considered in planning for major water control structures. We doubt that many of the small streams now being used will provide adequate water for the requirements of the next 25 years.

6. That the ground water resources of Tillamook County be inventoried as rapidly as possible.

7. We recommend that 34 water districts in Tillamook county begin to plan for consolidation into 3 or 4 water districts. Consolidation would provide a guaranteed supply and sufficient storage for all uses.

INDUSTRIAL WATER USE

Situation

Industrial water use requirements in Tillamook county may be considered in two categories: (1) Use of water for transportation. (primarily in Tillamook Bay); (2) Water use in the manufacturing process, directly or indirectly.

Water borne transportation is centered into and in Tillamook bay and the Tillamook river areas. Log raft traffic has long used these bay and river channels. Access to Tillamook bay is limited by the hazardous and shallow bar crossing and a small turning basin at Garibaldi for larger ships. Construction of a south jetty would result, we believe, in a substantial increase of water borne industrial traffic.

Traffic within Tillamook bay is limited by shallow water. Bay siltation has resulted in almost stopping water transportation.

Tillamook county relies, industrially, on the 8½ million dollar annual payroll from the lumber industry. To maintain our present lumber payroll, we must take advantage of low cost water transportation. With an annual allowable cut of 117 million feet of logs on government land and a mill capacity of about 175 million feet annually it is necessary to import logs to maintain our present industries.

Water requirements for industry currently total about 22,650,000 gallons per month. Although some surplus of water for industrial uses, exists in a few municipal systems in Tillamook county, any major industrial use of water would require careful planning and perhaps new facilities.

Major Industrial Water Requirements in gallons per month.

Tillamook Industrial Park	10,000,000
Publishers Paper	1,000,000
Tillamook Hospital	500,000
Tillamook City	60,000,000
Oregon Washington Plywood	2,500,000
T.C.C.A., cheese factories and Water Districts	10,000,000
Tillamook Schools	600,000

Industrial water requirements in the Tillamook water system currently total about 15% of total water use. This does not include the smaller stores, restaurants, motels, etc.

Recommendations

1. That further funds be appropriated for the Tillamook Bay South jetty and that construction be commenced as rapidly as possible.

2. That plans be implemented to develop three or four large consolidated water districts in the county. These large districts would provide a guaranteed industrial supply with sufficient storage for the growing domestic need for water.

3. Since the Tillamook People's Utility District has completed a preliminary investigational study of the Trask River sites, we recommend that this power study be coordinated with industrial, domestic and other water uses.

POLLUTION ABATEMENT

Situation

Pollution abatement is a long-term and never-completed job. It requires education of the public and enforcement of the laws regarding the disposal of sewage and industrial wastes and those regarding the uses of land in and near the streams.

As for sewage disposal, Tillamook County in general is making gradual progress. The cities of Tillamook, Garibaldi, and Rockaway are served by sanitary sewers and sewage treatment plants. These cities contain approximately one-third of the people in the county. The area north of Tillamook presents a sewage problem with annexing, a simple answer.

The upper reaches of all rivers in the county are fairly free of pollution by human wastes. However, the Nehalem below Mohler, the Wilson below Sollie Smith bridge, the Big Nestucca below Cloverdale, and the lower Tillamook are receiving considerable amounts of sewage. The Miami, Kilchis and the Little Nestucca are fairly clean throughout their lengths.

Tillamook Bay receives sewage from the Trask, Wilson, and Tillamook rivers and from dwellings and commercial establishments on its shores. The waters of the bay, however, are much less polluted from human wastes since the building of sewage treatment plants in Tillamook, Tillamook Airport and Industrial Park and Garibaldi. This bay also receives milk wastes from the main cheese factory north of Tillamook. Bay City contributes quite a lot of septic tank effluent to Tillamook bay, either directly or via small streams that run through the town. Oyster production in the Bay is restricted, by the Oregon State Board of Health, to the less polluted sections of the bay.

Netarts bay receives some septic tank effluent from the community of Netarts, but probably due to its size in relation to the amount of pollution, is the cleanest bay in the county. Nehalem bay receives sewage from the Nehalem river (mostly contributed by Nehalem and Wheeler) and from commercial establishments and dwellings along the lower bay.

Nestucca bay receives considerable sewage from the Big Nestucca river and a small amount from the Little Nestucca.

Miles lake and other small lakes in the area near Woods are virtually free from pollution by human wastes.

The beaches in the county are clean with the exceptions noted below:

Manzanita Beach receives septic tank effluent from the lower part of the city.

Twin Rocks beach receives the overflow from polluted ponds.

Oceanside and Netarts beaches receive some septic tank effluent from those communities.

There is some turbidity of all rivers due to present and past logging practices and to road construction. Also, there is some turbidity due to gravel mining and washing. However, all streams are improving in this respect due to diminishing logging activity, reforestation of the watersheds, and improved practices.

At the present time, we believe that no public domestic water supply is seriously menaced by sewage pollution. What this will be in the future as the population increases and demands for water grow is another matter.

POLLUTION ABATEMENT

Recommendations

1. That the unincorporated communities of Woods, Pacific City, McCormick Loop and the areas north of Tillamook on Highway 101, organize themselves into a sanitary district or take such other community action to work towards supplying themselves with sewage facilities.

2. The cities of Bay City, Wheeler and Nehalem, have completed their engineering studies. The committee commends the progress being made in these areas and urges completion of projects as soon as practical.

3. Tillamook, Garibaldi, Rockaway, are all planning improvements of their present sewage treatment plants. The Manhattan sanitary district has installed sanitary sewers. Treatment of Manhattan and Neah-Kah-Nie High School sewage is done by the Rockaway treatment plant. The splendid work in pollution abatement is commended by the committee. It is urged that improvements be completed at the earliest possible date.

4. Septic tank sewage disposal is a "stop-gap" method at best and should be used only in rural areas where conditions of space, soil, water tables, etc. are favorable.

5. The Twin Rocks community is now ready to let the contract for a sewage system. The committee urges completion of the project and commends the Twin Rocks area for this accomplishment.

6. Engineering studies have been completed at Manzanita, Netarts and Oceanside. The committee urges early completion of these projects.

7. The county-wide comprehensive sewer and domestic water plan for the county be completed and implemented as soon as possible. This study was the result of work done by the Tillamook Water Resources Committee. Funds were made available through cooperation of the Tillamook County Court. Cities and water districts in raising $7,800 which qualified the county for a $15,500 grant from FHA. The $23,000 will cover the cost of the survey.

COMMERCIAL & SPORTS FISHERIES

Situation

With an ocean coastline more than 70 miles in length, five salt water bays, and eight major rivers, Tillamook county's fishery populations and habitat constitute a major natural resource for both recreational and commercial uses. Considering increasing human populations and shorter work weeks, the value of this resource to the public and to the county continues to grow. On the other hand, increased use pressure on the resource plus a steady erosion of habitat makes it more difficult to sustain the fishery populations.

Fishery management responsibilities are shared by Oregon's Fish and Game Commissions. Generally, the Fish commission is responsible for management of the commercial resources plus the sport fishery on crabs, clams, other shellfish and sports, surf, and jetty fishing. The Game Commission handles sports salmon and steelhead and warm water species. Both Commissions are doing an excellent job, within their economic limitations, of managing this resource. The oyster crop, although generally considered with shellfish, is actually more of an agricultural crop grown in a marine habitat.

The anadromous fishery stocks in Tillamook county include chinook, silver, and chum salmon plus steelhead and cutthroat trout. These fishes, in a natural state, hatch in fresh water gravel bed spawning areas and migrate to the sea to mature. The fishery occurs as the migrants return to the coastal offshore waters, the bays, and finally to the natal rivers. Within Tillamook county are a minimum of 223 spawning miles for chinook, 302 for silvers, 46 for chum, 334 for steelhead and 764 for cutthroat. Spawning, varying by species, occurs from September to June. Additionally resident freshwater stocks of cutthroat occur in small streams throughout the county. The few lakes are stocked, periodically, with cutthroat trout.

Hatcheries for anadromous fishes are maintained by both Commissions. The Fish Commission operates the Nehalem River salmon hatchery on the North Fork of Nehalem and the Trask river salmon hatchery. The Game Commission operates the Cedar Creek trout hatchery near Hebo and a steelhead egg taking station on Cedar creek in the Tillamook burn. At times, steelhead fingerlings from other counties are brought in to supplement Tillamook county stocks. Gravel dredging, pollution and road building are hazards, too.

Oregon State University, through its Marine Science Center, has established a shellfish and chum salmon experiment station on Netarts Bay.

Sports angling pressure for 1964 was estimated at from 80 to 120 thousand angler days. This effort resulted in a catch of about 36,500 mature fish. Of this total, about 21,000 were steelhead, 11,000 stream and bay caught salmon, and 4,500 ocean caught salmon. The fishery for silver salmon and steelhead was exceptional. Hatchery production techniques, especially feeding and release procedures--time physiologically for best survival--seem to be of prime importance in the increased catch.

Access facilities to bays and rivers for the sports fisherman are excellent. Boat launching sites and bank easements contribute to angler convenience. Experienced guides with boats and resort accommodations aid in angling succes and enjoyment. The economic value of the sport fishery should continue to grow.

Use of the ocean as a sport angling area is limited by safe access to the ocean. Salmon fishermen fish out of Tillamook, Nehalem, and Netarts bays and by dory through the surf at Cape Kiwanda. The dory fishing is unique and exciting. A south jetty on Tillamook bay would greatly increase sports fishing and fishing economy out of Garibaldi.

Commercial salmon fishing in Tillamook county is limited to the off-shore troll. A chum salmon gill-net fishery was active in Tillamook bay until 1961. The troll fishery is limited by unsafe access from Tillamook bay. Some of the trollers work out of Newport and Astoria, but fish off Tillamook county. Construction of a south jetty would extend the trolling season out of Tillamook bay.

Recommendations

1. That the Fish and Game Commissions continue the fine work that they have performed and increase research and intensive management to produce the maximum sustained yield of salmon and steelhead.

2. In cooperation with the County Sanitarian, the Oregon Sanitary Authority should continue to track down and eliminate all sources of pollution.

3. State highways, county road departments, private contractors, timber companies and logging contractors should continue to conduct their road building and other operations so as not to jeopardise stream conditions.

4. Stream clearance by the Game and Fish Commissions should be an annual project where necessary.

5. That the Fish & Game Commission develop artificial spawning methods where practicable, in suitable areas of Tillamook county.

6. A bay commercial salmon fishery should be re-established, especially for chums, as new information on management becomes available.

7. The completion of the south jetty at the mouth of Tillamook is essential to the growthof commercial fisheries and sports angling in the ocean fronting Tillamook county. It is also essential to the development of a year-around shell fishery including shrimp and crab. The Tillamook bay jetty, when completed will permit a longer season and increased safety for both commercial and sports fisheries.

8. We recommend the Netarts Bay Experiment Station be greatly expanded and artificial propagation of all shellfish be undertaken at an early date.

ESTUARIES

Situation

The small acreage of marine bays in Oregon, less than one-tenth of one percent of Oregon, only emphasizes the value of this scarce and valuable asset.

An increasing intensity of use and the overlapping jurisdiction for estuary management in Tillamook county is creating a crisis. Proper planning is needed now to safeguard this natural resource.

The importance of Tillamook estuarine lands may be measured in a way by the following: Nine thousand clam diggers in Tillamook bay harvested a minimum of 171,000 clams from a 16 acre bed. This is the production of one tone of clams per acre. Dungeness crab is an important crop on tillamock's bays. Oyster production averages several hundred thousand dollars to the growers and could be much higher if technical production and out-dated legislation production problems can be solved. It is presently projected that Tillamook bay alone will produce three-quarters of a million gallons of oysters by 1970. The off-shore tidewater and river salmon fishing depends on the saline environment of the estuary for the salmon and steelhead to complete their life cycle.

The committee recommends the following, based on report by commercial fishermen and Oregon Chapter of the American Fisheries Society.

ESTUARIES

Recommendations

1. That an immediate inventory be made by all local, state, and federal agencies involved, on all Tillamook county estuaries relating to their present and potential uses from the commercial-industrial, natural resources, and public points of view.

From this inventory the objectives of management of the Tillamook county estuaries be identified and agreed upon.

2. Jurisdiction for the management of Tillamook county bays and estuaries must be clarified. Areas of overlapping authority must be cleared up by appropriate legislation.

3. Dredging and other alterations within our bays must be stopped until an overall plan is adopted for each bay. Plans should be made now to dispose of spoils resulting from rehabilitation of bay channel from Garibaldi to Burton bridge.

4. Where an insufficient amount of information is available to make a policy or management decision, research should be undertaken to provide the necessary information.

5. State water quality standards which are now established for all estuaries should be studied to determine whether separate standards should be set up for each bay.

6. We would recommend the management of public lands, fisheries etc., be vested in the state, assuming, of course, the state will accept the responsibility and manage the bays for the best interest of all. Other areas adapted to management of port commissions should be left in their hands or delegated to the county court.

7. The value of Tillamook county bays should be explained to all citizens from kindergarten to the golden age through educational programs set up to better develop public understanding and appreciation and we commend the out-of-door schools as sponsored by School District No. 9.

8. Studies should be implemented on rare or endangered species of shellfish in Tillamook county bays.

BOTTOM, SURF, AND JETTY FISHERIES

Situation

Sport fishing for bottom fishes, perch, ling cod, halibut, and flounder increases in popularity each year. Flounder fishing is especially good at Sand Lake. Halibut are taken, sparingly, near Cape Lookout and in a few other spots. Perch are caught in Tillamook and Netarts bays and in the surf, especially near Cape Meares. Ling cod and other rockfish are caught near reefs in the ocean.

Otter trawl fisheries for bottom fish are active, sporadically, with the boats docking at Astoria or Newport. Lack of the South Jetty limits trawling from Tillamook county ports. A small bait fishery for herring is active in good herring years. Catches of non-edible fish provide a source of mink food.

A considerable industry based on the harvesting of small cocktail shrimp has developed at Garibaldi.

Recommendations

1. It is urged that the Oregon Fish Commission and the U. S. Bureau of Commercial Fisheries continue surveys for bottom fish stocks.

2. With the increased catch of surf perch, we suggest that the Oregon Fish Commission consider a study of the fishery and perch breeding stocks so that the population is not over used.

SHELLFISH

Situation

The shellfish resource in Tillamook county includes the various species of clams, crabs, oysters, piddocks, shrimp, mussels, barnacles, crayfish, scallops and abalones.

OYSTERS

Situation

Tillamook bay produces about 85% of Oregon's oysters. The oysters are planted, cultured and harvested on private oyster claims. Netarts bay has produced oysters of excellent quality in the past. The Pacific oyster constitutes the bulk of the production with the Kumamoto, a small cocktail type oyster, becoming more important. Nearly 50% of North America's crop of the Kumamoto is grown on Tillamook bay. The market for oysters exceeds the supply. Technical problems have limited oyster production. A critical problem involves the digging activities of burrowing shrimp. These shrimp soften the growing ground, causing the oyster to sink into the substrata and die. Research is currently underway to solve this perplexing problem and a solution seems near.

Nearly 2,000 acres in Tillamook bay have oyster growing potential. Currently, less than 500 acres are producing a commercial crop. As technical problems are solved, the oyster industry could double in size.

Netarts bay has produced good crops of oysters in the past. Netarts contains fragmentary, self sustaining colonies of the Native oyster--in non-commercial numbers. Oyster areas in the bay are divided into about 700, 2 acre oyster claims. Few of the claims, at present, are farmed. The two acre limitation seems to be a self defeating regulation which needs some revision.

Oyster production is a highly productive use of baylands. Oysters are efficient food converters, actually grazers, using the single celled plants to produce delicious, nutritious human food.

Oyster production in Tillamook County has 60,000 gallons in 1967, 1968 will be 85,000 to 90,000 gallons. It is expected by 1970-71, production will be 150 thousand gallons, and eventually will exceed 250,000 gallons annually.

OYSTERS

Recommendations

1. Oyster culture should be expanded as cultural techniques are improved, to as large an industry as habitat will permit. We urge that the OSU Agricultural Experiment Station, and the federal agencies give a high priority to research on solving any production problems affecting the oyster industry.

2. As with other fisheries, sources of pollution must be found and eliminated. At the present time excellent progress is being made.

3. Regulations which may be stifling the industry should be reviewed and adjusted to permit maximum production of this important crop.

4. We advise the citizens of Tillamook county to become familiar with the oyster industry and its economic importance.

5. Agricultural field stations, for testing the growth of new farm crops and animals have been established for many years. Station results have been outstanding in increasing farm production and economy. We suggest that a shellfish field station be established on the Oregon coast, preferably in Tillamook county, to develop methods and varieties of shellfish culture (mainly clams and oysters) under intense conditions. Whether called mari-culture, aquaculture, or whatever, the committee believes that the estuaries of the Oregon coast are capable of producing tremendous crops of seafood---as illustrated by oyster production on Tillamook bay.

CRAB FISHERY

Situation

Commercial and sports crabbing provides an important fishery in most bays in the county. Tillamook bay commercial landings consistently total about 10% of the Oregon catch. Two major commercial crabbers operate out of Garibaldi fishing for ocean crab. A number of bay crabbers fish commercially in Nehalem, Tillamook, and Netarts bays---selling most of their catch locally.

Crab Fishery (Continued)

Sports crab fishing in the bays provides excellent sport and good eating for large numbers of recreationists. The Chamber of Commerce has issued a brochure "Let's Go Crabbing in Tillamook County" ---which tells where, how, and what to do with the crab catch. This is an excellent educational effort.

Recommendations

1. We recommend that the Oregon Fish Commission continue its research program on crab production and management to sustain and improve the crab catch.

2. A south jetty is an urgent need for the commercial crab fishermen. Winter is the prime catching season in the ocean and the hazardous bar crossing limits the crabbing effort.

CLAM FISHERY

Situation

Five species of bay clams are dug by recreational and commercial clam diggers in Tillamook county. The primary commercial clams are the cockle and the introduced eastern soft shell clam. Commercial digging occurs mainly in Tillamook, Nehalem, and Netarts bays. Three other species--the gaper (blue), butter (quahog), and littleneck (butter) clams are taken both as recreational and commercial species. As many as 1500 clam diggers have been counted on one good tide on Tillamook county bays. An estimated 30,000 sports clam digging trips per year made by sport clam diggers, many from out of the county, use the clam resource each year.

The Fish Commission determines annual production of the various species and sets daily limits. A limited razor clam population is found on the ocean sand beaches and near the inside entrances to Tillamook and Netarts bays. The Tillamook county Chamber of Commerce has published a brochure "Let's Go Clamming in Tillamook County". More than 120,000 of these bulletins have been distributed.

CLAM FISHERY

Recommendations

The clam resource is an important fishery, especially to the sports digger, and contributes substantially to the economy of Tillamook county.

1. Methods to maintain and increase production of these shellfish should be vigorously implemented.

2. We suggest that the Fish commission consider the experimental planting of the highly productive Phillipine littleneck clams in suitable habitat in Tillamook and Netarts bays.

3. The shellfish experiment station managed by the Oregon State University Marine Science Center should be expanded as rapidly as possible to develop and demonstrate clam production methods.

MISCELLANEOUS SHELL FISH

Situation

A variety of miscellaneous shellfish are found in Tillamook county bays and coastal ocean areas. Among these--piddocks, mussels, barnacles, abalones and shrimp may be potentially important as a sports or commercial resource. Mud and ghost shrimp, damaging to the oyster crop, are excellent bait for perch fishing. Several bait dealers dig and sell shrimp for bait. Occasionally, clam diggers take piddocks and mussels to eat. Fish commission surveys indicate that commercial shrimp resources may be available offshore.

Recommendations

1. We urge that every effort be made to utilize the unused or little used marine shellfish in the county.

INVERTEBRATES, AGATES, DRIFTWOOD

Agates, driftwood, and invertebrates (starfish, anemones, etc.) attract many residents and visitors to Tillamook county beaches. This healthy use of the area is increasing each year. Storm, whale, sea lion, and seabird watching are other important forms of unusual recreation. Federal refuges at Cape Meares and Three Arch rocks offer protection to the marine bird and mammal forms.

We commend all efforts aimed at increasing these fine recreational attractions. Perhaps increased efforts could be made to publicize or educate residents and tourists for proper esthetic, scientific and hobby uses of these resources.

ORDINANCE NO. 108

AN ORDINANCE AUTHORIZING PORT OF TOLEDO OR AGENTS TO REMOVE OBSTRUCTIONS FROM NAVIGABLE WATERS WITHIN ITS BOUNDARIES; CONFIRMING CERTAIN ENCROACHMENTS; PROVIDING FOR STORAGE OF OBSTRUCTION AFTER REMOVAL; NOTICE TO OWNERS; SALE OF OBSTRUCTIONS; AND DECLARING AN EMERGENCY.

BE IT ORDAINED BY THE PORT COMMISSION OF THE PORT OF TOLEDO, OREGON:

SECTION 1. The term "person" as used in this ordinance shall be deemed to mean and include any person, firm, co-partnership, association or corporation.

SECTION 2. The term "Port" as used in this ordinance shall be deemed to mean the Port of Toledo, Lincoln County, Oregon.

SECTION 3. The term "commission" as used in this ordinance shall be deemed to mean the Port Commission of the Port of Toledo, Lincoln County, Oregon.

SECTION 4. The term "navigable waters" as used in this ordinance shall mean and include all waters within the boundaries of Port which are navigable in fact and are susceptible of being used in their natural and ordinary condition as highways for commerce or fishing over which trade, travel, or fishing craft or vessels, regardless of size, are or may travel, inclusive of all waters extending to both banks of any river or streams.

SECTION 5. That no person shall construct, place, abandon or leave any logs, debris, rafts, boats, docks, booms, moorage or other obstruction upon or within the navigable waters within the boundaries of Port without first having obtained the written consent of said Port Commission.

SECTION 6. That all moorages, docks, booms, and rafts now in or upon the navigable waters within the boundaries of Port at the passage of this ordinance be and the same are hereby authorized to remain and continue, with the exception that any additions or alterations thereto shall only be done upon the written consent of said Port Commission. Additions and/or alterations shall not include necessary repairs and maintenance required to maintain said moorages, docks, or rafts.

APPENDIX C

SECTION 7. No person shall place or allow to remain loose upon or in the navigable waters within the boundaries of Port, any logs, other than logs being rafted or boomed preparatory to manufacture into lumber. Any logs, other than those above described and other obstructions which are now upon or in the navigable water within the boundaries of Port or which may hereafter come to be in or upon the said navigable waters, without the permission of commission be and the same are hereby declared obstructions to navigation and may be removed by said Port, or its authorized agents, without notice to the owner or owners, if the same be known.

SECTION 8. Immediately upon removal of said logs or other obstructions by Port, or as soon thereafter as possible, the said logs or other obstructions shall be stored at a place in the boundaries of said Port and notice shall be given all owners thereof, if the same shall be known or distinguishable from said logs or obstructions, by publication of a notice in one weekly publication in a newspaper of general circulation published within the boundaries of said Port, and by certified mail to the last known address of owner, notifying owners, or so many thereof as may ascertained, that logs or obstructions belonging to them have been removed from the navigable waters of the Port and the location of the same where stored and further that the owners thereof shall have a period of not more than thirty (30) days from the date of such publication in such newspaper in which to remove said logs or obstructions from their storage place and reclaim the same.

SECTION 9. Port Commission may by motion impose a reasonable salvage charge upon logs or obstructions so removed and require that the same by paid by owner prior to their reclaiming said logs or obstructions from port. If such a charge is imposed, the same shall be made known to owners by inclusion of the same in the notice required in Section 8 hereof.

SECTION 10. Should owner or owners of said logs or obstructions not appear and reclaim same within the time herein prescribed in Section 8, then said logs or obstructions shall become the property of said Port, and Commission may proceed to sell any and all logs or obstructions so removed and stored to the highest bidder therefor, said bid being either oral or written, and upon such terms, and conditions as Commission may prescribed by resolution. Port may otherwise dispose of said logs or obstructions as in the discretion of commission, it shall deem appropriate, after due notice to owner as hereinabove set forth.

SECTION 11. Should any person construct or place any docks, booms, moorage or other obstruction upon or within the navigable waters within the boundaries of Port without first having obtained the written consent of said Port Commission, and if the same shall be deemed an obstruction to navigation by a resolution of Port setting forth the reasons therefor, and upon notification to the owner thereof or person placing the same thereon that the same has been determined to be an obstruction to the navigation, and further setting forth the changes in construction required by Port or requesting its complete removal, said notice to be in writing and mailed by certified mail to such owner or person at his last known residence address, and upon the failure of such person or owner to make such changes or remove the same as required, Port may proceed to remove the same completely without being deemed guilty of any trespass or conversion, and to hold and charge the owner or other person responsible for the construction for the actual cost of such removal and proceed to recover such cost, if necessary, in any court of competent jurisdiction within the state of Oregon, as a civil action for work, services and material rendered at their reasonable price.

SECTION 12. An emergency is hereby declared to exist affecting the maritime shipping and commercial interests of said Port and this ordinance shall be in force and effect from and after its passage by the Commission and approval.

Passed by the Port Commission this 13th day of ~~April~~ MAY, 1965.

Approved by the Port President this 13th day of ~~April~~ MAY, 1965.

President

ATTEST:

Secretary

PORT OF SIUSLAW

POST OFFICE BOX 297
FLORENCE, OREGON 97439

Commissioners:
W. E. TERNYIK, PRESIDENT
M. BRITTAIN, 1ST VICE PRESIDENT
G. KOHLER, 2ND VICE PRESIDENT
N. J. HUNTINGTON, SECRETARY
J. L. MANN, TREASURER

Port Manager
PAUL L. COYNE
997-2027

Attorney
S. J. NICHOLSON

Consultant
T. J. MURRAY & ASSOC.

April 26, 1968

Mr. John Vlastelicia
Regional Coordinator, National Estuarine Pollution Study
Federal Water Pollution Control Administration
570 Pittock Block
Portland, Oregon 97205

Dear Mr. Vlastelicia:

On May 25th, 1909, the Port of Siuslaw was the first port district formed in the State of Oregon. From this time, up to and including the present, the district has been guided by many dedicated and hard working elected members to its Board of Commissioners. Down through the years, these port representatives have agressively worked for but one objective, to plan, provide and maintain a port and harbor constructive program, that will exploit all of the "Multiple-Purpose Usage" concepts of our natural resources.

During calendar year 1967, the monetary value derived from the Siuslaw River estuary, through our Commerce, Commercial and Recreational multiple purpose usage, was in excess of Six-Million dollars. Comparable to some of the larger estuaries, this may seem like a small amount, but the resulting economical benefits were realized throughout a large portion of Lane County, and this impact played a great part in maintaining the balance in our districts economic structure.

Both visible and non-visible pollution damage to the waters of the Siuslaw and its estuary have been kept far below the minimum average for coastal streams. Since the "crash-logging" program of World War 11, many of Oregons coastal waterways were left a shambles with debris and silted bottoms. With natures help, and more stringent control measures, pollution problems in the Siuslaw have been minimized. We have an excellent cooperative policing agreement program between the Port of Siuslaw, State, County and City enforcement representatives and this agreement has produced remarkable results. All of the Siuslaw River front industries, municipalities and private land owners have taken an active interest to assist the Port in our pollution control program.

APPENDIX D
BILL'S RECORDING SERVICE

During critical high-water periods, the Port of Siuslaw contracts Tug-boats trailing booms to sweep a 5 to 10 mile portion of the river between Cushman and Mapleton. The boom gathers all of the floating debris which is then towed to a high bank area, clam shelled out and piled up for burning. We have conducted this debris control program for the past three years and the net results have been very satisfactory, the Port expects to continue with this program in all respects.

All of Lane Counties approximate 40 miles of ocean frontage is within the Port of Siuslaw district jurisdiction. Very little of this coast line is in private ownership and all of the area adjacent to our entrance is in public ownership. As a matter of record, all of the various governmental agencies involved in developing this portion of Oregons coastal zone, including the Port of Siuslaw, are coordinating their plans in order to utilize all of the natural recreational aspects of this area. The U.S. Forest Service, Bureau of Lane Management and the Port have future development plans that range from five to twenty years hence. These plans take into account the preservation of this areas natural environment. We are positive that the management controls that these agencies establish will be followed in every detail to guarantee this future.

Therefore, it is the consensus of opinion of the Port of Siuslaw Board of Commissioners that we, the Port and our present local cooperating agencies, will provide a better system of control and management of the Siuslaw estuary. We are familiar with the problems of the area and are cognizant of the need to conservatively develop, yet to maintain and enjoy our natural estuarine resources.

Sincerely,

Paul L. Coyne

Paul L. Coyne
Port Manager

PLC/mm

№ 1900

DIRECTIONS TO SIGNERS AND CIRCULATORS OF THIS PETITION

It is unlawful for any person circulating this petition to make any false statement to any person who signs or inquires concerning its contents, purport or effect. (ORS 254.510)

Every petitioner must sign his or her own name.

Under no circumstances is any person permitted to sign another person's name.

WRITE YOUR NAME IN FULL AS YOU WROTE IT WHEN YOU REGISTERED.

Every signer must give his or her residence and post office address and should also enter in the column provided therefore the name or precinct number, if known.

DO NOT USE DITTO MARKS.

Only registered electors can sign a referendum petition.

When a signature is difficult to read, the name should be plainly written with a pencil on the same line.

A WOMAN SHOULD SIGN HER OWN NAME, NOT HER HUSBAND'S NOR WITH HER HUSBAND'S INITIALS: for example, MARY A. JONES, NOT MRS. JOHN JONES.

It is advisable to use a pen or indelible pencil.

Only one canvasser may secure signatures to any one sheet of the petition.

The signers of each sheet must all be from the same county, and their signatures must be sworn to by the person who circulated that sheet.

The county clerk of each county in which the petition is signed shall compare the signature of the signers with their signatures on the registration cards and attach his certificate of the genuineness of such signatures. (ORS 254.040)

INITIATIVE PETITION

State of Oregon

SPONSORS OF THIS PETITION:

Robert W. Straub, 3205 Canterbury Drive S., Salem, Oregon
Keith Burns, 7595 S.W. Fulton Park Place, Portland, Oregon
Elizabeth C. Ducey, 2773 N.W. Westover Road, Portland, Oregon
Richard L. Hubbard, 714 N.E. 192nd Ave., Portland, Oregon
Allan L. Kelly, 2740 S.W. Boundary Street, Portland, Oregon
William A. Luch, 9212 N. Reno Street, Portland, Oregon
Donald McKinley, M.D., 12640 S.W. Iron Mountain Blvd., Portland, Oregon
Janet McLennan, 5252 S.W. Northwood Ave., Portland, Oregon
William S. McLennan, 5252 S.W. Northwood Ave., Portland, Oregon
James A. Mount, 3060 S. Glenmorrie Drive, Lake Oswego, Oregon
Carl R. Neil, 6502 S.E. 31st Ave., Portland, Oregon
Jonathan Newman, 5215 S.W. Hewett Blvd., Portland, Oregon
Henry R. Rancourt, 6805 S.E. 68th Ave., Portland, Oregon
Jack D. Remington, 4720 S.W. 53rd Ave., Portland, Oregon
Francis G. Selfridge, 2739 S.E. 79th Ave., Portland, Oregon
Carleton Whitehead, 3035 S.E. Martins Street, Portland, Oregon
Lawrence F. Williams, 1465 27th Street, Milwaukie, Oregon

Submitting the following constitutional amendment to the people for their approval or rejection:

BALLOT TITLE:

BOND ISSUE TO ACQUIRE OCEAN BEACHES

PURPOSE: Constitutional amendment confirming existing public rights to ocean beaches and accesses. Authorizes state acquisition of privately-owned beaches bordering Pacific Ocean from extreme low tide to natural vegetation line, and accesses. Authorizes at any one time not to exceed $30,000,000 state general obligation bonds for acquisition. Prohibits construction of highways on beaches and ocean sand spits. Imposes for four years one cent per gallon tax on fuel for private passenger motor vehicles to retire bonds.

PROPOSED CONSTITUTIONAL AMENDMENT

Be It Enacted by the People of the State of Oregon:

The Constitution of the State of Oregon is amended by creating a new article to be known as Article XI-H, and by amending section 3, Article IX, as follows:

ARTICLE XI-H

Section 1. It is the policy of this state to establish, acquire and preserve ownership by the State of Oregon of all ocean beach lands and of public access thereto, and to protect, settle and confirm such areas of the ocean beach lands on which the public has acquired rights through dedication, grant, prescription, gift or otherwise, in order that the people may have the use and enjoyment thereof forever.

Section 2. As used in this Article and in section 3, Article IX, unless the context requires otherwise:

(1) "Ocean beach lands" means all lands within the state lying along the shore of the Pacific Ocean from extreme low tide to the line of natural vegetation bordering the ocean.

(2) "Line of natural vegetation" means the extreme seaward boundary of compact natural vegetation which spreads continuously inland. In cases where there is no clearly marked natural vegetation line the "line of natural vegetation" shall be the higher of the lines of constant elevation connecting the nearest clearly marked line of vegetation on each side of the unmarked area.

(3) "Appropriate administrative agency" means the Oregon State Highway Commission, until the Legislature by law designates any other body as such.

Section 3. Title to all ocean beach lands, and any interest therein, owned by the state or by any board, commission, department or agency thereof, or by the public generally, together with all rights of the public, whether acquired through dedication, prescription, gift, grant or otherwise, is vested in the State of Oregon.

Section 4. The State of Oregon acting through its appropriate administrative agency shall proceed with all reasonable speed to define, establish and quiet its title to all ocean beach

(over)

APPENDIX E

SED Form
No. 121 (Rev.)
1 July 59

SIGNATURE SHEET

Petition for ☒ Initiative ☐ Referendum

To the Secretary of State of Oregon:

We, the undersigned, request that the attached measure be submitted to the voters of Oregon for their approval or rejection at the election to be held on .....NOVEMBER 5........, 19..68..; and each for himself says: I am a registered voter of the State of Oregon; I have not previously signed a petition sheet for this measure.

	Name	Residence Address	Post Office	Precinct
1.				
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3.				
4.				
5.				
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CIRCULATOR'S AFFIDAVIT

STATE OF OREGON, County of ...., ss. I, ..., swear or affirm: That every person who signed this sheet did so in my presence; that I believe each has stated his residence correctly, and that each signer is a legal voter of the State of Oregon and County of ....

Subscribed and sworn to before me this .... day of .... 19.........

Notary Public for Oregon: ....

My commission expires: ....

Signature of Person Filing Statement:

Address:

I hereby certify that .... signatures on this petition are registered voters. ....

County Clerk or Deputy

Date .... 19.......; .... County.

BOND ISSUE TO ACQUIRE OCEAN BEACHES

THE RELOCATION OF HIGHWAY 101 IN TILLAMOOK COUNTY, OREGON:

a survey of voter attitude

CONFIDENTIAL REPORT
prepared by:
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NOVEMBER 15, 1967

APPENDIX F

INTRODUCTION:

This report is based on a survey of the attitudes of the voting populace of Oregon toward the controversial relocation of Highway 101 in Tillamook County near Pacific City, Oregon.

The purpose of the survey was to investigate voter preference toward the proposals under consideration in regard to the relocation of the highway: toward the proposal advocated by Governor Tom McCall and by the Oregon State Highway Commission to relocate Highway 101 "on the beach" and across the Nestucca Sandspit and toward the alternative being advanced by the "Save our Beaches" citizens group and by State Treasurer Robert Straub that the highway be relocated in the foothills adjacent to the beach and the sandspit.

In the course of gathering the necessary information registered voters were interviewed in their homes between October 1 and October 15, 1967. They were selected in a sound statistical fashion from population figures furnished by the U.S. Bureau of the Census. The study was conducted in such a manner as to produce a microcosm of Oregon's voting populace.

Each of our interviewers was given special instructions according to the precise specifications of the study design.

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THE CONTROVERSY:

Public attention has been claimed throughout Oregon for approximately 18 months by controversy over the relocation of U.S. Highway 101 near Pacific City in Tillamook County, Oregon. The question is whether the highway should be built on beach lands and on sandspit lands through a proposed state park or whether it should be built inland.

Proponents of the beach and sandspit route say it would open up recreation areas now inaccessible to the motoring public, that it would be a shorter and less costly route and that it would be more scenic for motorists.

Opponents of the beach and sandspit route say a high-speed highway cutting off the recreation areas from the ocean would destroy scenic and recreational values and pose a hazard to children. They recommend a low-speed access road into the area from a main highway located back from the beach area.

The final decision will be made by the State Highway Commission and by the U.S. Department of Transportation. Construction costs will be paid 100% out of federal funds and the Department of Transportation, through its Bureau of Public Roads, is the agency responsible for allocating such funds. Maintenance costs after construction will be borne by the State of Oregon from State Highway Department funds. The State Highway Commission, therefore, also has a voice in the route selection.

The State Highway Department held a public hearing in February, 1965, in Tillamook County to take testimony for and against the beach and sandspit route. The choice of alternate routes was not offered at that time. Local residents and vacation home owners testified and opinion was divided. In early 1966 the State Highway Commission announced its preference for the beach and sandspit route, and the Bureau of Public Roads supported this decision. Opposition then began to form outside Tillamook County and both the Commission and the U.S. Department of Transportation took the matter under reconsideration. In early 1967 the Highway Commission reaffirmed its earlier stand, while the Department of Transportation continued to study the question.

The U.S. Department of Interior then entered the picture. It retained specified jurisdiction over former Bureau of Land Management lands on the sandspit, and it denied the Highway Commission permission to build the highway through these lands on the grounds that the lands are dedicated to recreation use only.

The Highway Commission then realigned the sandspit portion of its proposed route to bypass these lands. It also surveyed three possible alternate routes. Subsequently, the U.S. Department of Transportation announced its decision to follow the intent of the Federal Transportation Act of 1965, which will become law in 1968. This Act will prohibit the use of federal funds for the construction of a highway through a state park or recreation area if a feasible alternate route is available.

On November 29, 1967, the State Highway Commission will hold a public hearing in Tillamook on the four surveyed routes. Two would cross the beach area and two would stay inland. One of the beach routes would also traverse the sandspit.

Following this hearing the State Highway Commission will decide its preference and the department of Transportation will approve or disapprove the use of federal funds for the selected route.

VOTER ATTITUDE TOWARD RELOCATION OF U.S.HIGHWAY 101:

Voters were asked whether they felt U.S. Highway 101 in Tillamook County near Pacific City should be relocated on the beach and sandspit or along the foothills. They were told that a controversy has been raging over the relocation of this highway for the past several months, that Secretary of Interior Udall has recently ruled that no highway may be built on the Nestucca sandspit, that it is still possible to re-route part of the highway on the beach, that the alternate foothills route would be more expensive.

Clearly, Oregon voters prefer the coastal highway near Pacific City to be located in the foothills:

TABLE I RELOCATION OF U.S. HIGHWAY 101
(undecided vote included)

	ALL VOTERS %
on the beach	8.9
along the foothills	59.6
not sure	31.5

If we exclude the undecided vote, our outcome would be:

TABLE II RELOCATION OF U.S. HIGHWAY 101
(undecided vote excluded)

	ALL VOTERS %
on the beach	13.1
along the foothills	86.9

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Table III enables us to analyze the voter preference on this relocation issue by key group categorization:

TABLE III RELOCATION OF U.S. HIGHWAY 101 - by key groups

	on beach %	along foothills %	not sure %
By Political Party:			
Democrats	5.1	70.6	24.3
Republicans	13.1	48.4	38.5
Other	8.2	61.4	30.4
by Congressional District:			
Cong District #1	17.1	46.6	36.3
Cong District #2	6.7	62.2	31.1
Cong District #3	5.4	67.2	27.4
Cong District #4	8.6	58.9	32.5
by Sex:			
Male	9.5	56.0 ~~54.0~~	34.5
Female	7.1	64.8	28.1
by Age:			
21-34	5.8	76.9	17.3
35-49	8.1	60.0	31.9
50-64	9.9	53.4	36.7
65 plus	8.3	~~52.5~~ 57.2	34.5
by Education:			
less than high school	8.8	54.8 ~~44.8~~	36.4
high school graduate	9.5	55.4	35.1
high school plus	7.9	62.0	30.1
college grad or more	8.6	63.8	27.6
by Income:			
under $3.000	7.5	54.1 ~~53.1~~	38.4
$3,000-$4.999	8.1	57.8	34.1
$5,000-$7,499	9.1	57.6	33.3
$7,500-$9,999	8.5	59.6	31.9
$10.000-$14,999	8.8	60.4	30.8
$15,000-$24.999	8.6	61.7	29.7
$25,000 plus	8.1	62.6	29.3
by Religion:			
Protestant	9.1	57.5	33.4
Catholic	8.0	61.9	30.1
Jewish	11.1	63.0	25.9
Other	7.2	59.9	32.9

	on beach %	along foothills %	not sure %
by Occupation:			
Business & Professional	10.1	58.3	31.6
Sales	9.6	55.0	35.4
Teacher & Minister	4.1	70.8	25.1
Clerical	7.9	60.8	31.3
Small Business	8.8	56.6	34.6
Labor	8.3	59.8	31.9
Farmer	9.8	57.6	32.6
Retired	8.7	59.4	31.9
Government	5.1	67.1	27.8

CONCLUSION:

Although more than one third of Oregon's voters are undecided in the matter of relocating U.S. Highway 101, it is more than evident that all categories of Oregonians who are able to express a preference disapprove strongly of the proposition to relocate this portion of the highway on the beach. It would not be unreasonable to assume from the message spoken by our respondents, that Oregonians would prefer to keep all their beaches free from high speed highways and that their preference in the future would be to locate or relocate ocean routes in foothill areas whenever possible.

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November 26, 1967

After Mailing you a copy of our report "The Relocation of Highway 101 in Tillamook County, Oregon: a survey of voter attitude," it was our displeasure to discover six errors in Table III in the column marked "along foothills." Would you be kind enough to make the following corrections in your copy of the report:

By Sex:	Male	Change 54.0 to 56.0
By Age:	65 plus	Change 52.5 to 57.2
By Education:	less hs	Change 44.8 to 54.8
	hs grad	Change 45.4 to 55.4
By Income:	under $3000	Change 53.1 to 54.1
By Occupation:	government	Change 57.1 to 67.1

Thank you,

NORTHWEST BALLOT BOX
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STATEMENT TO PUBLIC HEARING REGARDING WATER QUALITY STANDARDS FOR MARINE AND ESTUARINE WATERS OF OREGON-SOUTH COAST JANUARY 4, 1967

My name is Oscar F. Weed. I am Area Manager for Weyerhaeuser Company in Coos Bay. Our plant operations are located in North Bend, Oregon. We adopt and fully support the statement made on behalf of Associated Oregon Industries.

The extensive use of the waters of Coos Bay as a storage area for logs is as old as the logging industry itself in the area. Most all users of logs on the Bay are dependent to a greater or lesser extent on these waters as an important part of their business. This is no less true of Weyerhaeuser Company who began active operations on the Bay in 1950 and based these operations on a maximum use of these waters for log movement from the point of origin to the converting facilities and for storage. Following is some detail of these storages and their importance to the continued production of a large variety of wood products by Weyerhaeuser Company.

In total the maximum log volume stored in the waters of the Bay and lower Coos River amounts to 40MM board feet. The minimum is usually not less than 11MM board feet and is located as follows:

(Cont.)

Name of Storage Area	Owner	Location	Minimum Volume
North Bend Storage	Port of Coos Bay	Lower Bay	840M Rafts
North Port Boom	" " "	" "	6,700M Dumped
Waterford Boom	Menasha	" "	6,400M Dumped
Willanch Boom	Weyco	" "	3,400M Dumped
Lillenthal Boom	Weyco	Upper Bay	1,500M Rafts
Christenson Boom	Weyco	" "	3,300M Rafts
McCarthy Boom	McCarthy	" "	1,500M Dumped
Gunnell Boom	Gunnell	" "	1,400M Dumped
Graveyard Boom	Weyco	Coos River	4,800M Dumped
Graveyard Boom	Weyco	" "	1,400M Rafts
Morin Boom	Weyco	" "	1,400M Rafts
Forks Boom	Weyco	" "	2,500M Dumped

These volumes indicate how extensive the storages are used by Weyerhaeuser and when considering that most of the other wood converting plants in the area are backed up with similar storages, it becomes apparent that if it were necessary to completely remove this volume from the water and place the logs on dry land, many acres would be necessary. The possibility of handling logs on dry land has been a concern to the industry for many years. There are simply not enough acres in the area suitably located for the purpose of dry land storage and handling of logs. In fact, with pressure from other industry for the few acres that exist within a practical management area, it is unlikely that sufficient area will ever be available for the purpose of storing and managing logs.

In summary, the waters of Coos Bay are vital to the lumber industry and at the present there is no practical alternative to using these waters for log storage and handling.

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